MARCH, 1953

WOOD and wood products

THE NATIONAL MANAGEMENT AND PRODUCTION MAGAZINE OF THE $9 BILLION FOREST PRODUCTS INDUSTRY

Charles R. Sligh, Jr.
See Wood Salutes

Features in This Issue

Wood Office Furniture Fights for Its Market

How Production Control Works

Access Roads Program a Must

Conveyorized Finishing System

Moisture Content for Gluing

Other Items to See

- Wood Waste
- Sawyer Training
- Carbide Tools
- Markets
- New Products
- News and Trends

A Vance Publication

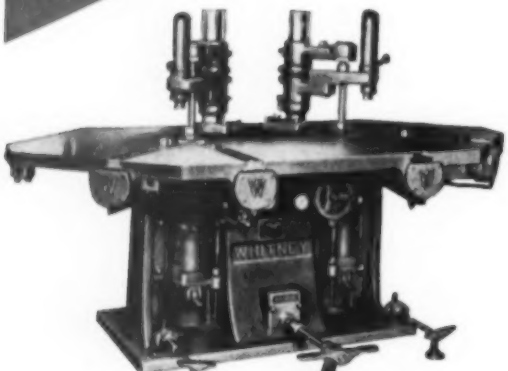
"costs reduced, accidents reduced, and quality of work much improved . . ."

WHITNEY *Automatic* SHAPERS

One of three Whitney Automatic Shapers, at Kalamazoo Sled Co. Shapes 8 complete sled slats at each loading of the form.

As "Champion" sleds streak down favorite sliding slopes thruout the country so the production of sled (and furniture) parts speeds from Whitney Automatic Shapers at Kalamazoo Sled Co., Kalamazoo, Michigan, who have operated 3 Whitney Automatics for the past several years. Not only has the quality of work been improved but production has been substantially increased and there has been a marked reduction in accidents, according to Mr. T. H. Reminga, Production Manager.

For your important shaping jobs, large runs and recurring shorter runs, look into the Whitney Automatics, Single and Double Spindle, to get the most out of your shaping department. Bulletins gladly sent on request. Ask for Automatic Shaper bulletin PR-3.



Whitney 2-spindle Automatic

Whitney Automatic Shapers are built in sizes and models for every shaping requirement.

Quality Since 1837

In Our 116th Year

BAXTER D. WHITNEY & SON, Inc.

WINCHENDON, MASSACHUSETTS, U. S. A.

PLANERS • SHAPERS • VARIETY SAWS • MORTISERS • BACK KNIFE LATHES

Turn Problems into Profits with Whitney Automatic Shapers

We're Basic...

to Bring You Better

GLUES

● In producing adhesives, Reichhold first manufactures both formaldehyde and phenol and then uses these chemicals to make resin glues. This "start-to-finish" operation means that Reichhold offers you ... in your resin glue purchases ... all the advantages inherent in primary quality control. For full details about RCI resin adhesives for your specific needs, please write:

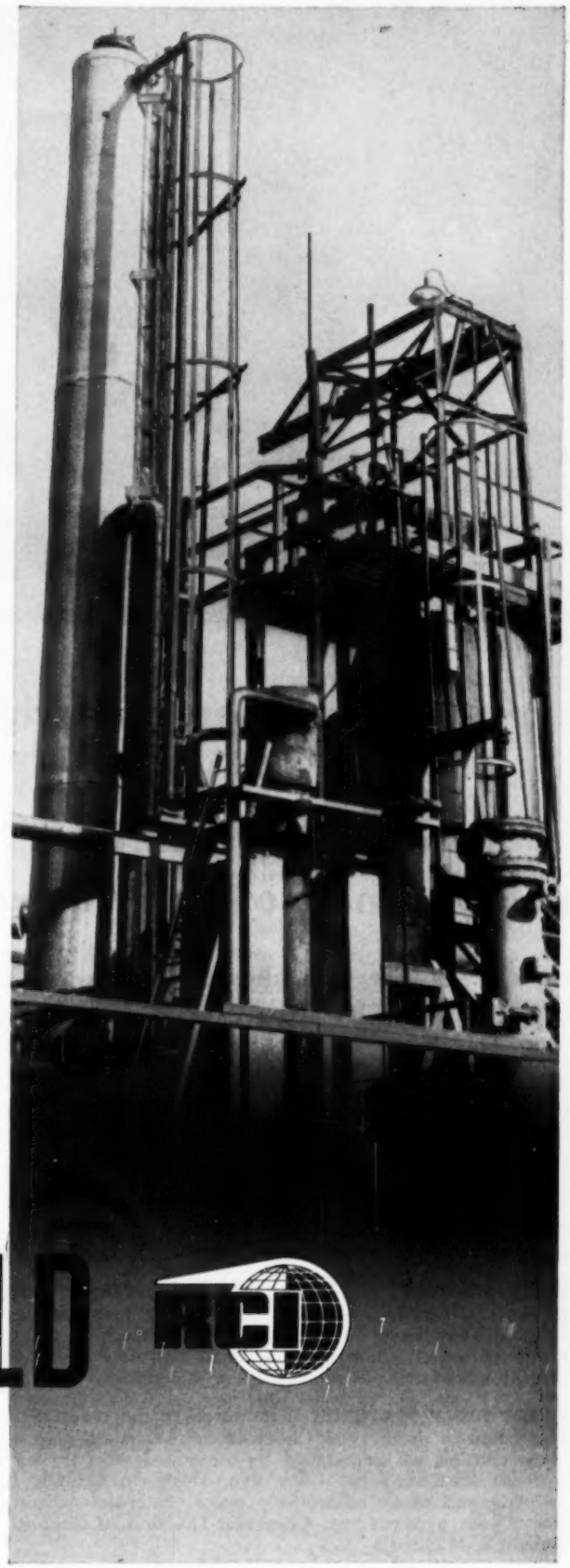
REICHHOLD CHEMICALS, INC.
630 Fifth Avenue, New York 20, N. Y.

Creative Chemistry ... Your Partner in Progress

REICHHOLD

RCI

Synthetic Resins • Chemical Colors • Phenolic Plastics • Phenol
Glycerine • Phthalic Anhydride • Maleic Anhydride
Sodium Sulfate • Sodium Sulfite



4 powerful reasons why 1953 CHEVROLET Advance-Design Trucks give you more of what you want

MORE POWER—GREATER ECONOMY! Expect a wonderful advance in power, performance and economy in Chevrolet heavy-duty trucks! The great 1953 Loadmaster engine—standard on 5000, 6000 Series, heavy-duty and forward control models, optional on 4000 Series heavy-duty trucks—has a new high compression ratio of 7.1 to 1, develops even more horsepower than before. And the Thriftmaster engine in light- and medium-duty models brings you traditional Chevrolet economy.

TRUCKS ENGINEERED FOR YOUR PAYLOADS! Chevrolet trucks are designed for the job they will do—engineered from tires to axle, springs, clutch and power plant to do that job with the greatest efficiency and lowest cost. You don't waste money on too heavy a truck or too light a truck. You buy the *right* truck for *your* job!

MORE STAMINA! More strength where strength counts most! In 1953, all Chevrolet trucks have stronger, brawnier, more rigid frames. They have heavier, sturdier construction that means a longer, lower-cost life for your truck. And they have new larger, safer, longer lasting brakes on many models, too!

GREAT TRUCK FEATURES! In addition to the many *NEW* things you'll find in these 1953 Chevrolet trucks, you'll also find many great features yet unmatched by other makes of trucks. Features such as Flexi-Mounted Cabs, Unit-Designed Bodies, Ball-Gear Steering and many others help make Chevrolet Advance-Design trucks your greatest buy. Chevrolet Division of General Motors, Detroit 2, Michigan.

CHEVROLET ADVANCE-DESIGN TRUCK FEATURES

TWO GREAT VALVE-IN-HEAD ENGINES—the Loadmaster of the Thriftmaster—to give you greater power per gallon, lower cost per load. **POWER-JET CARBURETOR**—for smooth, quick acceleration response. **DIAPHRAGM SPRING CLUTCH**—for easy-action engagement. **SYNCHRO-MESH TRANSMISSION**—for fast, smooth shifting. **HYPOID REAR AXLE**—for dependability and long life. **TORQUE-ACTION BRAKES**—on light-duty and medium-duty models and on front of heavy-duty models. **TWIN-ACTION REAR BRAKES**—on heavy-duty models. **DUAL-SHOE PARKING BRAKE**—for greater holding ability on heavy-duty models. **CAB SEAT**—with double deck springs for complete riding comfort. **VENTI-PANES**—for improved cab ventilation. **WIDE-BASE WHEELS**—for increased tire mileage. **BALL-GEAR STEERING**—for easier handling. **UNIT-DESIGNED BODIES**—for greater load protection. **ADVANCE-DESIGN STYLING**—for increased comfort and modern appearance.

CHEVROLET
first in demand
in value
in sales

WOOD and wood products

Volume 58, No. 3

MARCH, 1953

MANAGEMENT

Production Control—How to Make It Work ... 22

MARKETING

W.O.F.I. Program Aims to Rebuild Market for Wood Office Furniture 24
Industry Leaders Laud "Wood's" Drive for Market Fight ... 38

FORESTRY

Access Roads Are a Must—How Do We Get Them Built? ... 27

FINISHING

Conveyorized Finishing Boosts Productive Man-Hours ... 29

PRODUCTION

Output UP—Costs DOWN With Machine Nailing ... 30

ADHESIVES

What's the Right Moisture Content for Good Gluing? ... 31

EDUCATION

Task Group Offers 9-Point Plan to Curb Wood Waste ... 34
Sawyer Training—What Are You Doing About It? ... 44

EQUIPMENT

Carbide Tool Use and Care Studied in Special Courses ... 47

DEPARTMENTS AND NEWS

Industry News and Trends	7	Wood Puzzlers	54
Editorial	19	New and Improved Products	55
Foreign Woods	46	New Catalogs and Literature	60
F.P.R.S. News	49	Patent Digest	62
Coming Events	51	Names and Events	65
Markets	52	Wood Salutes	78

Herbert A. Vance ... *Publisher*

J. F. Koellisch ... *Editor and Manager*
A. Roy Faris ... *Associate Editor*
R. Y. Kerr ... *Washington Editor*
R. M. McFarland ... *Sales Manager*
Thornell Barnes ... *Circulation Manager*
Elmer Olin ... *Ass't. Circulation Manager*

District Representatives:

Chicago 2-139 N. Clark St., Financial 6-5380

New York 10—Randolph Stout, 175 Fifth Ave., ORegon 3-6883.

Seattle—J. P. Austin, 4401 White Bldg., MAin 0226

Atlanta—T. L. Williams, 1000 Boulder crest Dr. S. E., LAmar 2769.

Los Angeles 5—Bob Wettstein, Granada Bldg., 672 S. Lafayette Park Place, Dunkirk 8-2286.

San Francisco 8—(Bob Wettstein) Jerry Newell, Howard Bldg., 209 Post St., Yukon 6-2522.

Published monthly at 1309 N. Main St., Pontiac, Ill. with Executive and Editorial offices 139 N. Clark St., Chicago 2, Ill., by Vance Publishing Corp. OFFICERS: Herbert A. Vance, president and treasurer; Arthur A. Hood, vice president; A. E. Monetti, secretary. Annual subscription postage paid rate in United States, Possessions and Canada $4.00. All other countries in the Universal Postal Union $10.00. Single copies 50 cents. Copies of issues prior to current year, if available, $1 each. In changing address, give old as well as new address. Note: All subscribers receive a Mail Notice from the publishers in advance of the expiration of their subscription. Established 1896. Entered as second class matter, November 7, 1951, at the Post Office, Pontiac, Illinois, under the act of March 3, 1879. Copyright, 1953, Vance Publishing Corp.

(advertisement)

Mauk Talk

You can't win on your income tax return. If you play it strictly honest you end in the poorhouse. If you play it otherwise you end in jail.

* * *

With many young people it's not the parking problem. It's the problem after parking.

* * *

Simple Celia says a fast girl isn't really bad. She justs hates poverty worse than sin.

* * *

Industrial lumber is an expert matter and calls for your specialized knowledge and technique.

The supply of industrial lumber is a specialty of the MAUK Lumber Co. Whatever your job requirements, we have the skill, resources and experience to meet that need—meet it promptly and economically.

Lets work it together—today.

* * *

There's a new book coming out, written by the one time madam of a call girl system. Title? "A House is Not a Home."

* * *

When a man and a wife have a joint bank account do you call them checkmates?

* * *

The really ethical business man is the one who never goes back on his word—without consulting a lawyer.

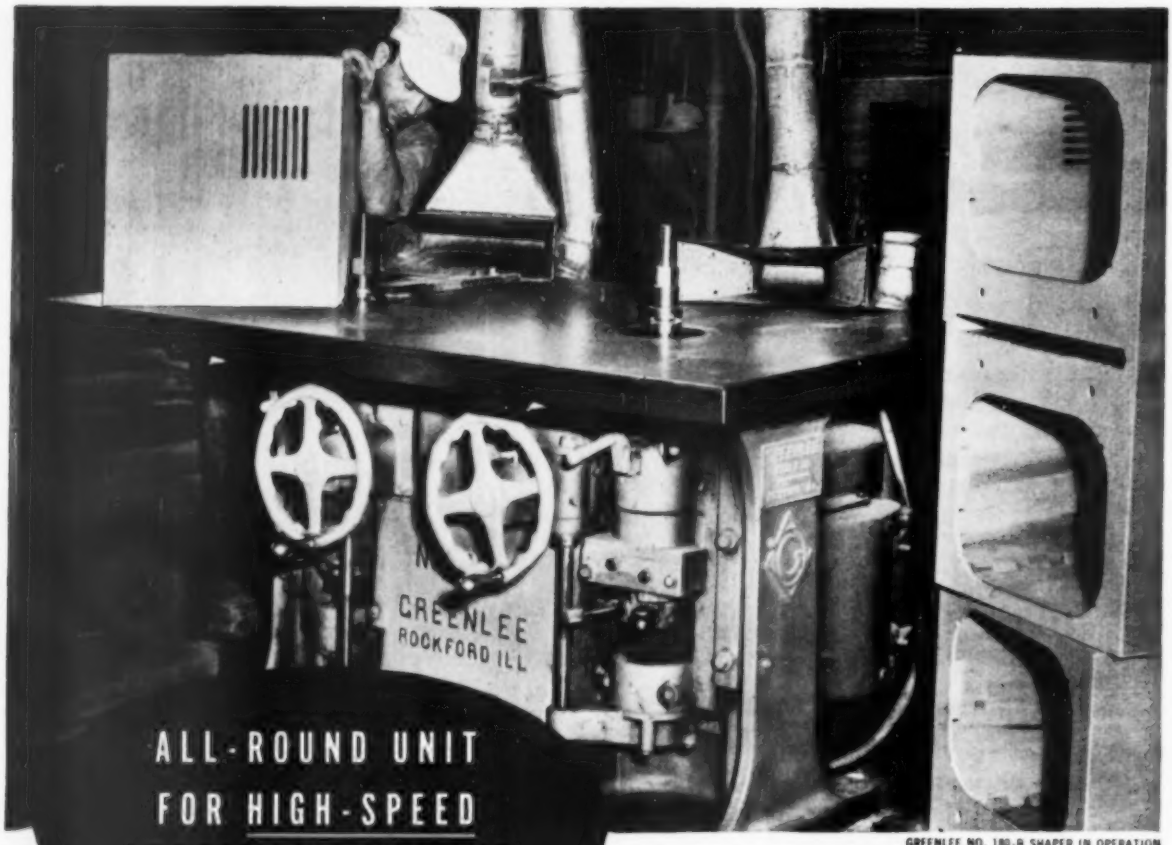
* * *

"Of course this is a trained dog. Look. When I tell it not to sit up, it doesn't sit up!"

* * *

MAUK Seattle Lumber Co.
Seattle, Washington

C. A. Mauk Lumber Co.
Toledo, Ohio



GREENLEE NO. 180-B SHAPER IN OPERATION
AT IGLOO CABINET CO., CHICAGO, ILLINOIS

ALL-ROUND UNIT FOR HIGH-SPEED PRECISION SHAPING

... *Greenlee 180-B Motor Driven Shaper*

Here's the *double-spindle* Shaper that you find speeding production in so many leading woodworking plants today.

Its size, spindle spacing, and design for extremely high spindle speeds, makes the GREENLEE ideal for high output of light or medium-heavy work. And its belted-motor-driven feature eliminates need for a separate frequency changer.

Since the success of any shaper depends mainly on its spindles, all GREENLEE Shapers have spindles that are designed for maximum strength and rigidity. Of alloy steel, scientifically heat-treated, they are capable of withstanding hard shocks and stresses and still maintain their original fine balance. Equipped with precision ball-bearings, they operate at high speed with maximum smoothness.

Rugged frame construction, proper table design, highest quality materials and fine craftsmanship throughout, all combine with the other many features to make this an outstanding machine of excellent reputation.

For accurate, high-speed shaping and long-time, trouble-free service, investigate the GREENLEE No. 180-B Double-Spindle Shaper. Write today for complete specifications . . . ask for Bulletin No. 180-B. Greenlee Bros. & Co., 1923 Twentieth Ave., Rockford, Illinois.

MACHINERY & TOOLS
GREENLEE

GREENLEE WOODWORKING MACHINERY: MORTISERS · BORERS · SAWS · TENONERS · PLANERS · SHAPERS · MORTISING & BORING TOOLS

MARCH, 1953

WOOD and wood products

VOL. 58, NO. 3

INDUSTRY NEWS and TRENDS

EDUCATION

Course in Gluing Technique

Newest glues and gluing techniques will be taught in a concentrated, three-day course to be given at State University of New York College of Forestry at Syracuse March 10-12. Purpose is to benefit management and operations men of the woodworking industry, according to Prof. Raymond J. Hoyle, head of the department of forest utilization, whose faculty will give the training.

"By concentrating on highlights of recent developments, the course should enable men who take it to apply newest scientific knowledge that will help them increase production, save on materials and labor costs, and thus make more money," according to Prof. Russell C. Deckert of Mr. Hoyle's staff. Mr. Deckert became Industry Service Representative at the college last fall to set up and administer short courses and other special college services to the forest industry.

Enrollment will be limited in order to permit a maximum of individual attention to men of the group and their particular problems and interest in industrial wood gluing.

Subjects to be covered will include preparation of stock; cold and hot pressing, electronic gluing techniques; testing; and characteristics of casein, vegetable starch, animal glues, and synthetic resins such as urea-formaldehydes, melamines, phenols, resoroinals, etc.

Forestry Fellowships Offered

Graduate students of the physical and biological sciences have been invited to apply for fellowships worth $1250 to $1700 offered for 1953-54 by State University of New York College of Forestry at Syracuse. Applicants may choose among 15 special study areas including the College's newly expanded programs in forest economics and polymer chemistry. The fellowships and graduate scholarships will be awarded in March, April, and May. Both are for a nine or a twelve-month period.

Besides 25 established by the College, five other fellowships with industrial or other sponsorship will be awarded by the forestry college. These will go to specially qualified students for work on assigned projects.

Dr. Shirley, Dean of the college, said that fellows may pursue studies leading to the M.F., M.S., or Ph.D. degrees. The College's program of graduate study and research currently has 89 students and a full-time research staff of 30 persons. Specialized studies may be made in forest botany, entomology, management, administration, zoology, photogrammetry, mensuration, or economics; wildlife management, silviculture, wood technology, landscape architecture, forest products manufacture and utilization, pulp and paper technology, or cellulose and polymer chemistry.

Applications for the first award decisions should be sent by mid-March to the Chairman of Committee on Graduate Study, State U. College of Forestry, Syracuse 10, N. Y.

Also to be awarded are special teaching and research assistantships paying an hourly wage, and several tuition scholarships for students from outside New York State. Fellows as-

Largest Forest Utilization Project in New Zealand

What is said to be the largest forest products operation in the Southern Hemisphere is being built by N. Z. Forest Products Ltd., Kinleith, New Zealand. Costing what would approximate $20 million in American money, the operation is situated in the center of the company's 176,000 acres of Monterey pine. The project is expected to produce a maximum of 45,000 tons of unbleached sulphate pulp annually, 12,500 tons of which have already been earmarked for Australia. Kraft paper production from the nearby mill will be 25,000 tons yearly. Average daily output of sawn timber from the American bandsaw mill and the Swedish gangsaw mill, housed together in the same building, is 180,000 b.f. Annual sawn timber output from the company's 4 sawmills is 60 million b.f.

sist in teaching and research work of the college for no more than 15 hours a week.

Kiln Drying Course April 20-25

Practical techniques in seasoning and kiln drying lumber and wood products will be given during the 36th short course in dry kiln operation that State University of New York College of Forestry at Syracuse has scheduled for April 20-25. Specially organized to concentrate on the information most helpful to men in industry taking the training, the course will be given by men drawn from industry and from the faculty and research staff at the College.

Harold B. Gatslick, dry kiln specialist in the Department of Forest Utilization, will be in charge of the training in kiln drying and seasoning, conducting day-long sessions himself and arranging for the contributions of other experts. Industry men appearing as guest lecturers and demonstrators will cover instrumentation, heating systems, veneer drying, and other kiln drying topics.

Students will dry a full charge of lumber in the College kiln, in addition to having lectures, demonstrations, discussions, and question-and-answer sessions with guest authorities.

Full details about the course and its content may be obtained by writing the Dept. of Forest Extension at State University of New York College of Forestry, Syracuse 10, N. Y. Fee for the course is $75.

College of Forestry men scheduled to handle special, technical aspects include Prof. Alfred H. Bishop and John M. Yavorsky, research associate, utilization department; Harold A. Core, wood technologist; John B. Simeone, expert on insects that damage wood; and Dr. Robert A. Zabel, botany expert on wood damage by fungi.

Book Cites Progress with Wood

"Proceedings of Wood Symposium on 100 Years of Engineering Progress with Wood", has just been published by Timber Engineering Company, affiliate of National Lumber Manufacturers Association, Dept. WP, 1319 Eighteenth St., N. W., Washington 6, D. C. It is a compilation of outstanding papers presented at the wood symposium held during the Centennial of Engineering Convocation in Chicago last fall.

Factors bringing progress to virtually all fields of wood utilization are discussed by 26 of the nation's leading engineers and technologists in their respective papers and comments reproduced in the book. In stating the purpose of the publication, Harry G. Uhl, president of Timber Engineering Company, said that it affords "a permanent record of the valuable historical and current data presented by recognized authorities on wood as an engineering and industrial material." Copies are available without charge by writing to the company at the above address.

RESEARCH

Plan to Reduce Wood Waste

The American Standards Association, 70 E. 45th St., New York 17, N. Y., announced that it has been asked to initiate a project designed to reduce the waste of 448 million cubic feet of solid wood that occurs annually in the production of lumber.

A conference held at headquarters of the ASA, as a result of the request of the Defense Production Administration that the Association consider the problem, proposed that the project cover performance standards for the equipment used by small sawmills, with a view to securing increased precision of sawing and minimum waste of material.

Standardization of sawmill performance is greatly needed, it was

See how the new Thermatron High Frequency Generator with Automatic Power Control Speeds up Edge Bonding!
Thermatron
HIGH FREQUENCY GENERATORS AND EQUIPMENT

In the installation shown, the new 20KW THERMATRON Generator is used in conjunction with a Weldon press, which is completely shielded and guaranteed to meet FCC requirements. A new automatic tuning device delivers to the load the maximum efficiency of the generator

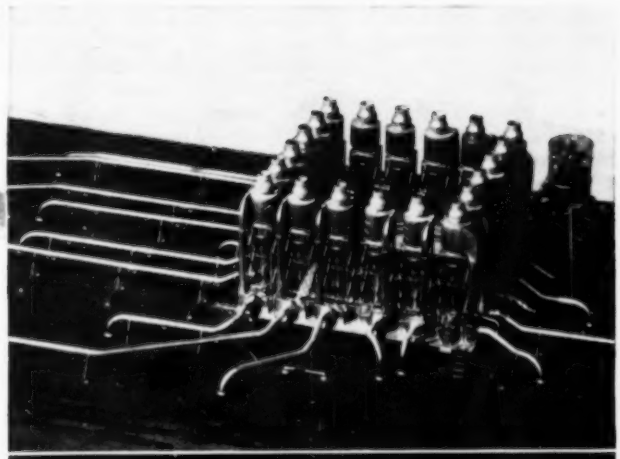
REDUCES PRODUCTION TIME BY 33⅓% AT SENSENICH CORPORATION PLANT!

They agree at the Sensenich Corporation, Lancaster, Pa., that their new 20 KW THERMATRON and batch-type press installation is really the last word for high production edge bonding. THERMATRON'S large power capacity and automatic controls quickly proved themselves in accommodating the wide variety of loads run at the Sensenich plant.

This modern high frequency generator—product of years of Radio Receptor research and development—has indicator lights and meter readings to tell at a glance the exact status of the material in work. Power and tuning automatically adjust to load conditions during the entire cycle . . . and of course all the latest protective devices are included.

THERMATRON engineers are ready to make suggestions regarding your wood-gluing problems . . . Write us now, and request our new brochure No. W-14

Thermatron division
RADIO RECEPTOR COMPANY, Inc.
Since 1922 in Radio and Electronics
SALES DEPT. 251 W. 19th St. New York 11, N. Y. • FACTORY 84 N. 9th St. Brooklyn 11, N. Y.



PLASTIC MANUFACTURER: Exterior View of K & B Dust Control Installation

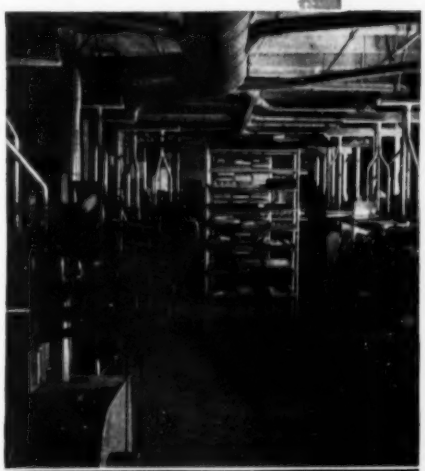
the dusty air that isn't there . . .

because of KIRK AND BLUM *dust control!*

Wherever you find woodworking equipment, a Kirk & Blum Dust Control system is likely to be working alongside, providing "clean air . . . the INVISIBLE tool" for increased production and improved working conditions.

Hundreds of leading woodworking plants have eliminated substantial waste by replacing old dust collecting systems with a modern Plenum Main type of system, exclusive Kirk & Blum development, or a streamlined Kirk & Blum Tapered Main System.

In more than 45 years of experience, Kirk & Blum Engineers have gained skill that can be used effectively in your plant . . . large or small. Call in a Kirk & Blum Engineer for a no-obligation survey.



PLYWOOD MANUFACTURER:
K & B Tapered Main Dust Control System

FURNITURE MANUFACTURER: K & B Plenum Main System

Write for the booklet "Blower Systems for Woodworking Plants."

KIRK AND BLUM
DUST CONTROL SYSTEMS

THE KIRK AND BLUM MANUFACTURING COMPANY, 3192 FORRER STREET, CINCINNATI 9, OHIO

reported, for both reasons of conservation and for more economical operation of the sawmills. E. A. Pratt, of the Defense Production Administration, in presenting the proposal for the project, stated that the figure of a half billion cubic feet of solid wood wasted per year is based on a study made by the Forest Service in 1945 and 1946.

The Forest Service study further revealed, he said, that about 80% of primary manufacturing waste occurs in the production of lumber. A little less than half of the total waste is sawdust, shavings and other fine material; the rest is slabs, edgings and trimmings. Of this fine material some 59% was, at the time of the survey, being used for fuel. The remainder constituted solid wood totally lost.

The project was limited to the small sawmills because of the great waste resulting from their relatively crude methods and because these mills cannot afford the investment required to institute the conservation practices used by the larger mills.

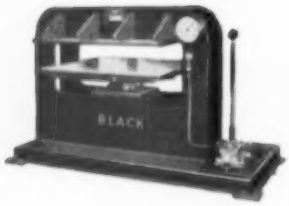
Study Wood Left After Logging

The Oregon Forest Products Laboratory is making a study of the amount of useable wood left on the ground after logging operations. The study is being conducted on 100 1⅛-acre sample plots on areas that have been logged.

An inventory is being made by four forestry students of the Oregon State College of all tree parts over 5 cubic feet in volume on the sample plots, which were selected on the basis of ownership, size of operation, and location.

The U. S. Forest Service and the Pacific Northwest Forest Experiment Station are cooperating on the project. The problem is to match any useable log leftovers with mills having facilities to handle them.

Presses

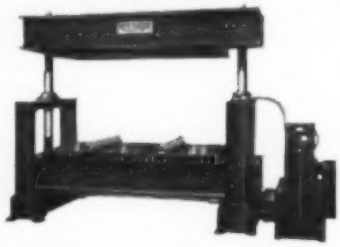


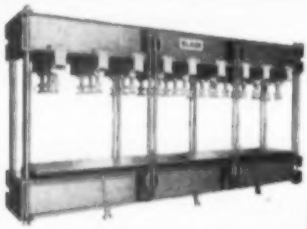
HYDRAULIC PRESSES

Black's hydraulic laminating press is designed for laboratory and experimental work or light production operation. It is strongly made of modern steel-plate frame construction. Variations may be had in the width of platen, vertical opening, length of stroke, and total pressure applied. Write for Bulletin 11-P.

ELECTRIC PRESSES

Black's electric press is fast and efficient on laminating jobs which require moderate pressure. Presses with a capacity from 36" x 36" to 48" x 144" with a 44" vertical opening are available. Its unfailing ruggedness and durability results from simple, straight-forward design with a minimum of parts. Write for Bulletin 11-E.





HAND POWERED PRESSES

Black Hand Screw Plywood or Glue Presses are made for work of any dimension. Ten sizes of sectional presses are offered from 12" to 18" in width and 18" to 102" between uprights, and which may be set side by side to form presses of any required length. All-steel presses are available in a complete range of sizes for every conceivable requirement. Write for Bulletin 11-G.

"If its gluing equipment—we have it"

write today...

THE BLACK BROTHERS CO., INC. 820 9th St., MENDOTA, ILLINOIS

LUMBER

Shipments Below Production

Lumber shipments of 490 mills reporting to the National Lumber Trade Barometer were 7.7% below production for the week ending January 24. In the same week new orders of these mills were 0.1% below production. Unfilled orders of the reporting mills amounted to 38% of stocks. For the reporting softwood mills unfilled orders were equivalent to 23 days' production at the current rate, and gross stocks were equivalent to 58 days' production.

For the year-to-date, shipments of reporting identical mills were 6.5% below production; new orders were 3.9% above production.

Douglas Fir Production High

Douglas fir sawmills missed by a "slim plank" cutting as much lumber in 1952 as in the previous year. The 1952 output totaled 10.314 billion board feet, just 102 million feet below the all-time high cut of 10.416 billion feet of 1951.

Harris E. Smith, secretary, West Coast Lumbermen's Association, said that fir mills came within a few carloads of shipping as much lumber as was produced, and that orders were only 217 million feet less than the year's production.

Twelve months of 1952 cumulative production 10,314,426,000 b.f.; Twelve months of 1951, 10,416,432,000 b.f.

Orders for twelve months of 1952 breakdown as follows: Rail & Truck 7,235,897,000 b.f.; Domestic Cargo 2,128,306,000 b.f.; Export 246,157,000 b.f.; Local 487,385,000 b.f.

The industry's unfilled order file stood at 820,145,000 b.f. at the end of December, gross stocks at 1,092,619,000 b.f.

ONE OF 12 WOOD-LOK* FEATURES

ONLY 20 MIN. CLAMPING TIME

for joint assembly operations that normally require 6 to 8 hours.

WOOD-LOK* Glue will shorten your assembly lines... free working floor space . . . speed production. It is the only type of resin wood glue that can be handled and machined after a clamping time of 20 to 30 minutes. It sets with a speed comparable with hot animal glue.

WOOD-LOK* is a cold run, liquid glue—*ready for use!* Nothing has to be added, soaked or heated. Its characteristics never change. It permits continuous production—with no time lost to mix fresh glue or replace constantly hardening glue.

WOOD-LOK* glues are specifically blended to suit your job. Their colors range from uniformly controlled pure white—*which dries colorless and leaves no glue line*—to darker shades for special uses.

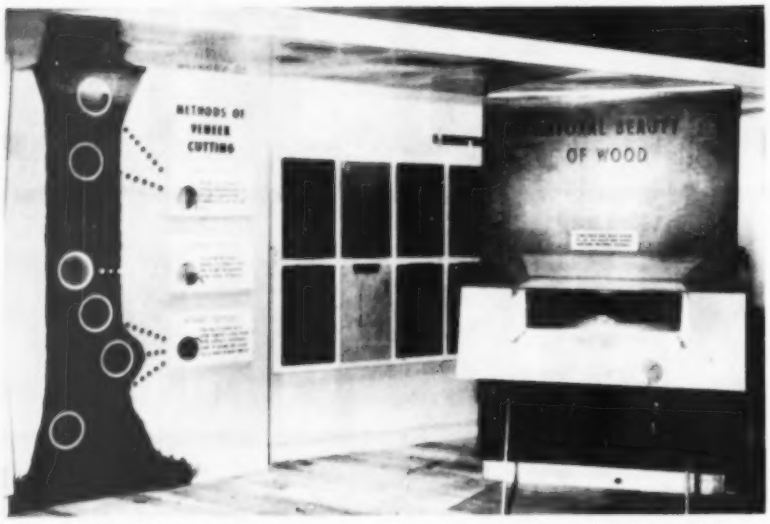
WOOD-LOK* Glue was designed for Joint Assembly Operations where limited clamping time or rub joints are necessary to speed production. Or where an economically applied, fast setting durable bond is required for wood working.

WOOD-LOK* is available—NOW! For complete information address: 270 Madison Ave., New York 16; 3641 So. Washtenaw Ave., Chicago 32; 735 Battery St., San Francisco 11; and other principal cities. In Canada: National Adhesives (Canada) Ltd., Toronto and Montreal. In England: National Adhesives, Ltd., Slough.

(*Reg. applied for)

National ADHESIVES

EVERY TYPE OF ADHESIVE FOR EVERY INDUSTRIAL USE



THIS DISPLAY is designed to show the various figures found in different parts of the tree.

Industry-Wide Hardwoods Exhibit to Open in Chicago March 19

The evening of March 19 will mark a milestone in the history of the growth and progress of the hardwoods industry. On this date the industry will inaugurate its first major cooperative consumer education program . . . the $350,000 permanent Hardwoods Exhibit nearing completion at Chicago's world-famous Museum of Science and Industry.

All segments of the hardwoods industry are represented in this colorful exhibit which will tell the complete story of hardwoods—from living tree to finished products.

Over 200 companies and associations have contributed money and materials to make this exhibit possible. It has been prepared under the supervision of a voluntary industry committee headed by Co-chairmen T. J. Connelly, of the Dean Co., and William C. Linn, of the Hoosier Veneer Co. Burdett Green, of the American Walnut Manufacturers' Association; Charles Close, of the Veneer Association; and George Lamb, of the Mahogany Association, complete the executive committee.

Leading members of the hardwoods industry from all over the United States, and trustees of the Museum of Science and Industry, will be guests at the dedication banquet and official opening of the Hardwoods Exhibit.

The interesting program will be launched at 5 P. M. with a complete tour of the 10,000 sq. ft. exhibit which is officially named "A World of Hardwoods."

At the Dedication Banquet scheduled to begin at 7 P. M.. the Hard-

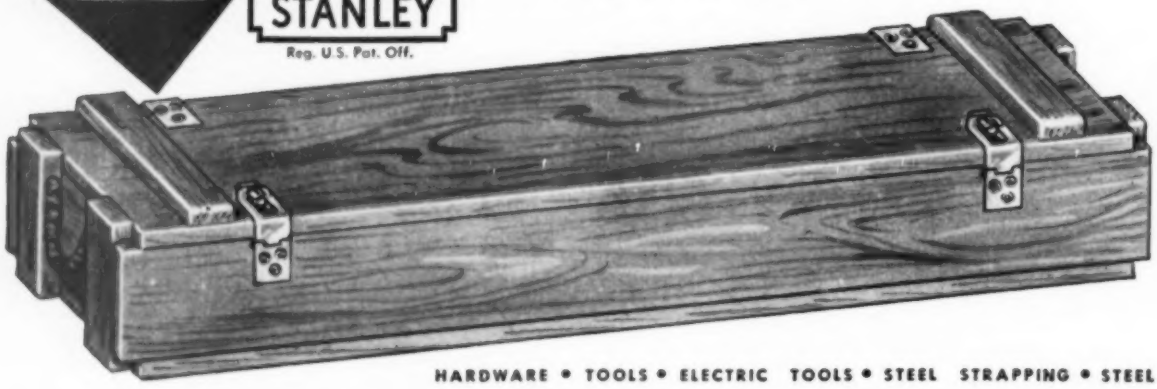
Ammunition Box Hardware

If your contracts call for hardware for ammunition boxes like that shown here, or for other ordnance equipment—save time by consulting Stanley. The largest manufacturer of hinges and hardware specialities, The Stanley Works has the "know-how" to help you develop the items you need, and the plant facilities to supply them on time.

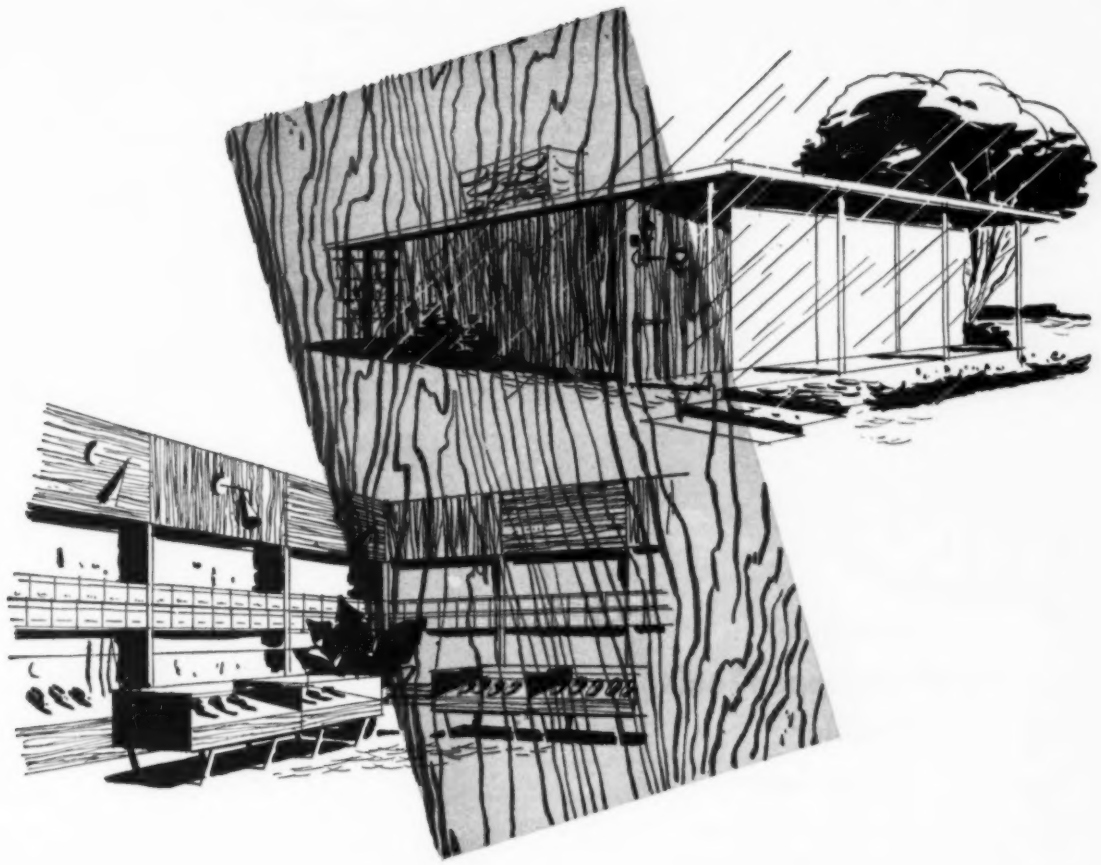
Send us complete details of your requirements, including prints, if possible. We'll help you meet delivery commitments.

THE STANLEY WORKS • NEW BRITAIN, CONNECTICUT

STANLEY
Reg. U.S. Pat. Off.



HARDWARE • TOOLS • ELECTRIC TOOLS • STEEL STRAPPING • STEEL



To make ONE plywood for both interior and exterior use — at a competitive price*— use Melurac® Resin 300

* *To make a better quality plywood at a competitive price, take advantage of all these money-saving features of* MELURAC 300:

1. FEWER REJECTS. Although glue line cost per 1000 square feet is higher than with some other glues, manufacturers have saved money because of the low number of rejects.

2. EASY HANDLING AND MIXING. Can be used without catalysts. MELURAC 300 is supplied as a free-flowing dry powder. Only water need be added.

3. NONSTAINING. MELURAC 300 is clear and colorless . . . quick setting . . . nonstaining. You can use thinner veneers and lighter woods.

4. LONG WORKING LIFE. When properly prepared, MELURAC 300 has a usable life of more than 10 hours at 90° F. Glue loss is cut to a minimum.

5. LONG ASSEMBLY TIME. Under normal conditions, veneers spread with MELURAC 300 can be stored several days, if necessary, before pressing. Avoids need for precure.

6. MODERATE CURING TEMPERATURE. Optimum pressing temperature is only 240° F. . . . minimizes "blows."

7. FAST CURE. With Cyanamid's Hardener M-325, the cure rate of MELURAC 300 is virtually as fast as Urea resin adhesives.

MELURAC 300 provides a completely waterproof, boil-resistant glue line for high quality plywoods—flat or curved, light or heavy, for interior or exterior applications. This resin combines the advantages of both melamine and urea . . . enables you to streamline production and realize important savings.

Want to build a better line? Want to give your competitor a real run for the orders? MELURAC 300 will give you the answer! Send us the details of your operation, or ask to have a Cyanamid representative call. We will be happy to work with you.

AMERICAN Cyanamid COMPANY

PLASTICS DEPARTMENT

38A Rockefeller Plaza, New York 20, N. Y.

woods Exhibit will be formally presented to the Museum of Science and Industry on behalf of the entire hardwoods industry by Mr. Connelly. Major Lennox R. Lohr, president of the museum, will make the acceptance speech.

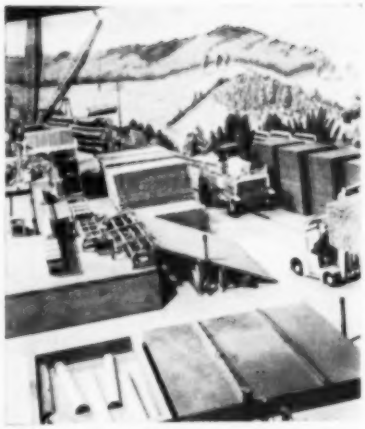
The keynote dedication address will be given by Charles R. Sligh, Jr., president of the National Association of Manufacturers and of the Sligh Furniture Companies, Grand Rapids.

Mr. Sligh will offer practical suggestions on how individual companies and associations in the industry can put the Hardwoods Exhibit to work to increase their own sales.

Selected entertainment will also be featured on the evening's program.

No more appropriate site could have been selected for this joint industry enterprise. Operating on the theory that learning can be fun, the Museum, which is ideally located in Chicago, the center of America, draws more than 2,000,000 visitors a year to see the educational displays in this "permanent world's fair," 63% of them from outside the Chicagoland area.

Lights, color, sound, action, and visitor participation displays will be used lavishly in the Hardwoods Exhibit, in keeping with the Museum's proved successful policy.



THIS MINIATURE sawmill features scale model replicas of woodworking machinery

Among the displays that will tell the story of hardwoods in an interesting, easy-to-remember form are a "living tree" which (through a recording) tells of its own biology, an animated scale model sawmill, veneer mill and plywood plants, a "weigh yourself" scale that shows the strength of modern adhesives used in plywood, a visitor-operated mirrored veneer matching machine, and a globe that lights up to show the sources of 48 different hardwoods.

In the Hall of Hardwoods—where finished products will be shown—the "Life of Skeezix" will be used to illustrate, in three-dimensional scenes, how hardwoods serve in many ways, from infancy through adulthood. Model rooms and other exhibits will be used to show the public beautiful hardwood products that offer a better way of living.

Ponderosa Pine Panel Door Design Competition

An architectural competition for the design of a Ponderosa Pine interior panel door is announced by its sponsors, Ponderosa Pine Woodwork, with competition headquarters at 2907 West Pico Blvd., Los Angeles 6, Cal.

First prize $2,500; second prize $1,500; third prize $1,000, and 10 other cash prizes and honorable mentions are to be awarded.

The competition is intended to challenge the imagination for a fresh approach in applying the principles of panel door construction to progressive design. The sponsor's purpose is to obtain a design for an interior panel door, suitable for mass production methods, consistent with current standards of architectural design.

REDCO
precision
▸ Carbide Tipped Tools
▸ Profiler
▸ Grinder
. . . a combination that builds PROFITS
Redco Precision Grinder and Profiler . . . simplifies the grinding of Redco Carbide Tipped Tools.
Redco Cutter Heads . . . true helical cutting angle of 6 carbide knives, speed and ease the work; 90% less tear-outs.
Redco Saws . . . dynamically balanced with oversize carbide tips; durable; low maintenance; fast, clean cutting.
Redco Router Bits . . . heavier, high frequency-welded carbide tips, cut easier and are longer lasting; give a finer finish to all work.
Every Redco product is made especially for woodworking plants to meet particular woodworking standards. Write for complete catalog today.
Please send me a copy of the REDCO Profile Grinder illustrated bulletin.
Name ..... Title .....
Company .....
Address .....

FORDYCE

HARDWOODS

Band Sawn Stock
Red and White Oak
Red and Sap Gum
Industrial and Wagon Oak

•

Ash Hickory Cypress Elm

•

Furniture Semi-dimension
Thresholds
Solid and Glued-up Treads

•

Uniform high standards in manufacture, drying and seasoning.

Play Safe . . . Buy Brands You Know!

FORDYCE LUMBER COMPANY
FORDYCE, ARKANSAS

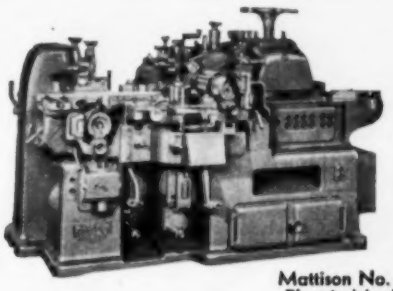
Since 1889

REPORT ON
Sea Swirl
®
We are happy—and regretful. Happy because the acceptance and demand for this decorative fir plywood has been so spontaneous. Regretful because we can't seem to catch up with orders. It may seem odd that in a market of plywood plenty, there is, by comparison, so little *Sea Swirl* available. Yet this is understandable when you realize that only the most select panels qualify for this three dimensional product that captures the romance of soft ocean beaches and of tideprints in the sand. We suggest that you write for a color booklet illustrating the many uses of this wonder wood. While you are studying it, and planning on the use of *Sea Swirl* for modernization and new construction, we will be increasing production facilities on this popular plywood.
ASSOCIATED
PLYWOOD MILLS, INC.
General Offices: Eugene, Oregon
Plywood plants at Eugene and Willamina, Oregon
Lumber mill at Roseburg, Oregon
APMI
BRANCH SALES WAREHOUSES:
4268 Utah St., St. Louis, Mo.; 4814 Bengal St., Dallas, Texas; 4003 Coyle St., Houston, Texas; 1026 Jay St., Charlotte, N. C.; 111 Welborn St., Greenville, S. C.; 925 Toland St., San Francisco, Calif.; Eugene, Oregon; Willamina, Oregon.
SALES OFFICES:
31 State Street, Boston, Mass.; 595 E. Colorado St., Pasadena, Calif.

FOR YOUR MACHINE ROOM YOU WANT THE *Latest*

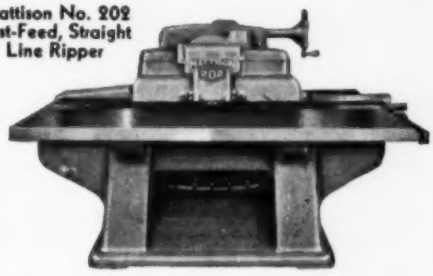
To be out in front you will want the newest and latest equipment for your machine room. The best will be none too good. We will be glad to show you what Modern Mattison Machines can mean to you in terms of greater volume, reduced costs, and better and more accurate work. As the first step write for new free circulars.

Write Today for Free Circulars

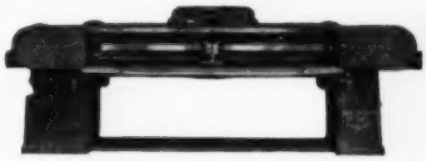


Mattison No. 276
Electric Moulder

Mattison No. 202
Fast-Feed, Straight Line Ripper



Mattison No. 57F
Automatic Shaping Lathe



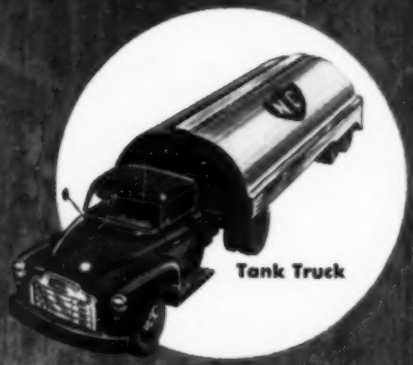
Mattison Machine Works, Rockford, Illinois
Please sent for Circulars on: Moulders.....Rip Saw.....
Turning Lathes.....Sanders—Power Stroke.....Hand
Lever.....Hand Block.....Variety.....Edge.....

Name.....Title.....
Firm.....
Street.....
City.....State.....

MATTISON MACHINE WORKS
ROCKFORD · ILLINOIS

For BIG users or Small...

National Casein has the right glue for your job



Try us once . . . you'll stick with us
Because National Casein glues stick for you

One reason why our customers are steady customers for years and years is that you get the right glue for your particular job when you want it—and in whatever quantities you prefer to buy—tank car, tank truck, drum—*or package!* Adequate stocks of all but special formula glues are maintained at both Chicago and Riverton. Same-day service is yours on most orders. Tank car and tank truck shipments take a little longer.

Contact the National Casein office nearest you for the right glue for: Exterior and interior plywoods . . . Machine edge gluing and hand work . . . Decorative plastics . . . Chip board manufacture . . . Laminating hardboards, veneer splicing, laminated rafters . . . Glues to pass all government specifications.

National Casein

Best Defense Is Strong OFFENSE

It's gratifying to see the lively interest aroused by our recent editorials calling upon the wood industries to fight for their markets. A few early reactions from industry leaders are published in this issue. So also is the third of our special articles telling how some industry groups are fighting wood's battle.

The urgency of the situation, as new substitute materials make their bids for wood's markets and as anti-wood propaganda rears its ugly head everywhere, is now also recognized by one of our esteemed contemporaries, and we hope for similar support from more publishers and others who have a stake in wood's future. In a February 15 editorial, Southern Lumberman agrees that *maintenance of markets* must take precedence over many other problems now facing the industry. In endorsing the stand taken by Wood & Wood Products that "organized, energetic and sustained action in this direction should be taken before it is too late," they call for strong "defensive" steps.

Frankly, this is no time for "defensive" action. The industry has been on the defensive long enough. What we need now is an all-out OFFENSIVE—nothing less will win this war. That's what the groups who are already fighting wood's battle were smart enough to recognize. They have marshalled their strongest arguments—and there are many in wood's favor which have not been told too well or too often—and put all the forces and weapons at their command into solid *offensives* that are producing results. More of these offensives by other groups with a big stake in wood's markets must be mounted and aggressively pushed, supported by a major public relations program that sells all woods to all America.

How to do it? That's the big question. Influential members of the industry are almost unanimous in their endorsement of group programs, but not all are sure that a unified, overall industry program is feasible. One man, for example, points out that "wood is a great many things, from women's shoe heels to 40 ft. bridge timbers." He contends that special promotions are required in special fields. Another calls for action by a fully representative NLMA trade promotion committee to formulate a program for selling all woods and the virtues of wood in general. Certainly both arguments have merit, but can we afford to stop short of doing the *whole job?*

Wood & Wood Products believes there is room, and an urgent need, both for vertical group action and an all-industry program, and so far the majority opinion is with us. But if we believe in wood and are determined that strong offensive action is essential to the protection of present markets and the recapture of some of our lost markets, both sides of the problem must be aired. Only by this means can we hope soon to bring about the desired action.

We'll have more concrete things to say on this subject next month. Meanwhile, whether or not you agree with our position, read the article on Page 24 of this issue, and the typical comments on Page 38—and let us know what *you* think.

(Comments, and inquiries regarding distribution of reprints of this message to employees and others, are invited.)

CONVERT YOUR CIRCULAR MILL TO A BAND MILL WITH THE

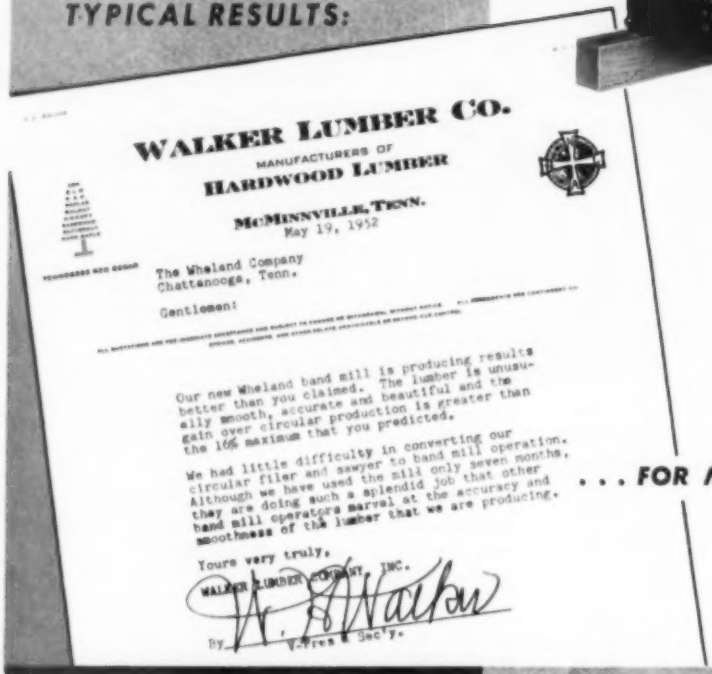
54" WHELAND BAND MILL

RUNNING SLIVER TOOTH SAWS

no change in carriage necessary

- **Lower Operating Costs**
- **Up to 15% More Lumber Out of Your Logs**
- **More Accurate Lumber**
- **Pays for Itself in 2 Years or Less**

TYPICAL RESULTS:



WALKER LUMBER CO.

MANUFACTURERS OF
HARDWOOD LUMBER

McMINNVILLE, TENN.
May 19, 1952

The Wheland Company
Chattanooga, Tenn.

Gentlemen:

Our new Wheland band mill is producing results better than you claimed. The lumber is unusually smooth, accurate and beautiful and the gain over circular production is greater than the 10% maximum that you predicted.

We had little difficulty in converting our circular filer and sawyer to band mill operation. Although we have used the mill only seven months, they are doing such a splendid job that other band mill operators marvel at the accuracy and smoothness of the lumber that we are producing.

Yours very truly,

WALKER LUMBER COMPANY, INC.

By W. B. Walker
V-Pres & Sec'y.

WHELAND 54" BAND MILL BUILT FOR 10" SAWS.

Wheland also makes 6' and 8' Mills built for 12", 13" or 14" saws. The 6' and 8' mill offers optional equipment of motorized top saw guide and motorized wheel lift. Carriages and other equipment to match all Wheland band mills.

. . . FOR MORE PRODUCTION, MORE PROFIT

SEND FOR BULLETIN
GIVING COMPLETE DETAILS

FIGURE IT OUT. We will gladly look at your present equipment, figure out the best installation for you, estimate production and costs. Write us and one of our experienced sawmill men will study your operation and give you the facts so that you can decide.

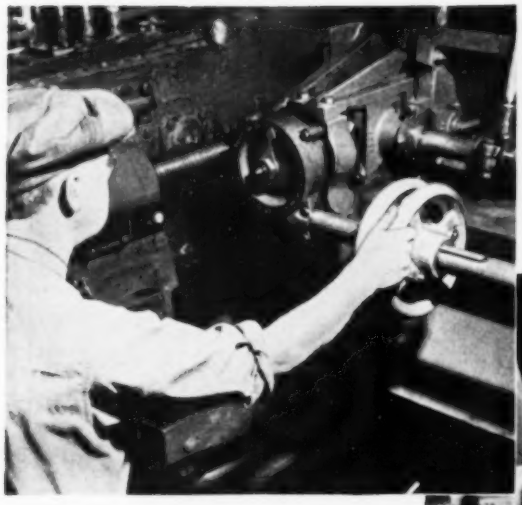
WHELAND

THE WHELAND COMPANY

CHATTANOOGA, TENNESSEE

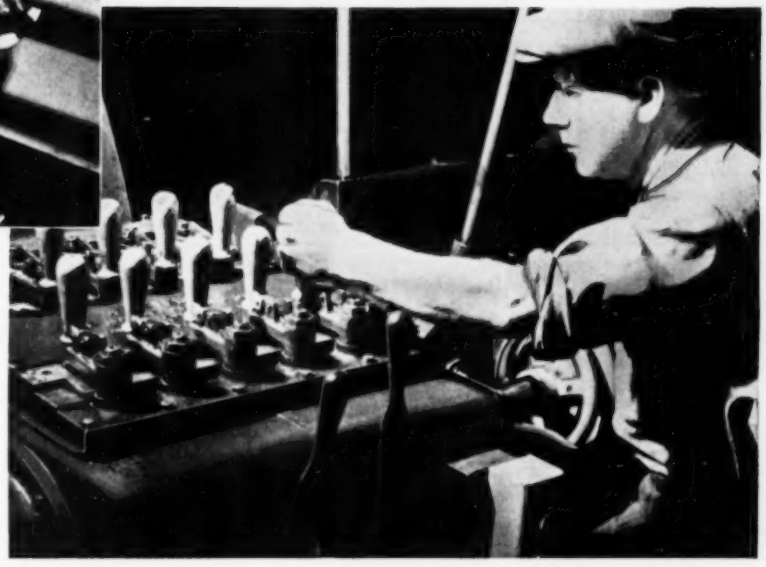
FOR OVER 80 YEARS, THE FOREMOST NAME IN SAWMILL EQUIPMENT

Exceptional
EASE and ACCURACY of CONTROL
...characterize COE LATHES!



↑ Pressure at both ends of the pressure bar may be varied in micrometer increments, the settings being indicated on calibrated dials.

The lathe may be adjusted to cut any one of 150 veneer thicknesses by simply moving two hand levers into different positions. →



Profitable operation in many instances depends largely upon being able to cut veneer that runs consistently true to gauge.

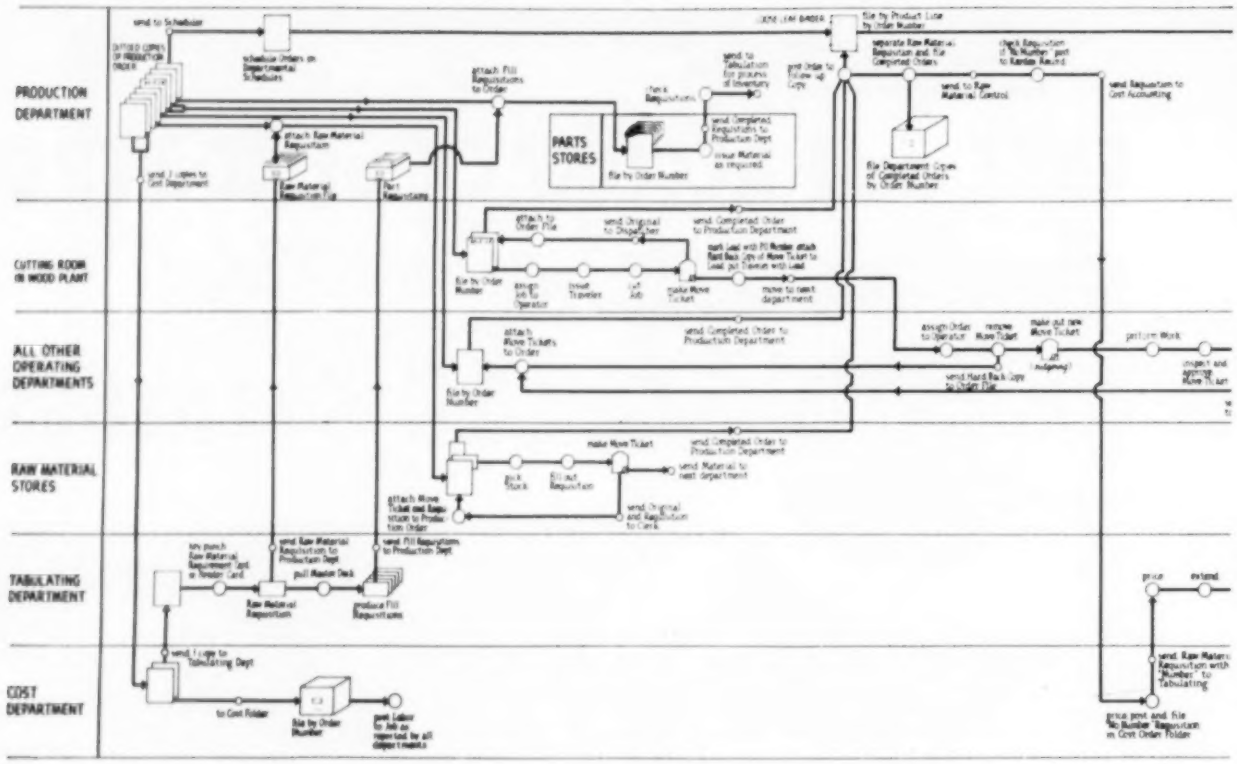
The essential facilities that assure precise operation have long been a valued feature in Coe Lathes.

Consider, for instance, the micrometer adjustment of pressure bar which combines means of both making the adjustment and visibly checking for uniformity of pressure; also the quick-change feed gear box which permits quickly setting the lathe for cutting 150 thicknesses of veneer. One range provides thickness increments of .002" from .002" to .200" maximum; the other increments of .004" from .200" to .400" maximum.

Interesting information regarding the many COE features is available on request.

The **COE MFG.** *Company*
PAINESVILLE, OHIO

LATHES • CLIPPERS • DRYERS • KNIFE GRINDERS



Production Control . . .

How to Make It Work

It's Not a One-Man Job—Management Reaps Full Benefits When Teamwork Is the Rule, From Top Down

By J. A. KELLER and J. J. BUTLER
Geo. Fry & Associates
Management Engineers

EVERY MANUFACTURING ENTERPRISE has to co-ordinate the use of the three elements of production—labor, material, and production facilities. Frequently, this co-ordination is one of the major problems of management, and the success of the entire manufacturing process may depend upon the proper handling of this function.

"Production Control" is the name applied to the procedures for planning and controlling production to achieve this co-ordination. Under effective production control, production is planned in terms of quantity, quality, time and place. Only by such planning can maximum production with the least expenditure of time, money and material be achieved, and customer satisfaction maintained.

The degree of production control needed in a particular company varies widely. The type of manufacture is an important determining factor in the amount of control needed. In addition, the situation within a company may dictate the kind of production control most desirable.

In the wood and wood products industries, there are certain fundamental elements which are found in most production programs and which are in reality factors in production control. These factors usually are:

1. Control of issuance of production orders.
2. Inventory and procurement of raw materials.
3. Scheduling, dispatching, and progress of production orders.
4. Methods analysis and routing of production.

Each of these factors is present in some manner or other when manufacturing is carried on. They may be considered explicitly by a company, or may receive attention only intuitively, grouped together, or not at all. At any rate, knowingly or not, they do exist.

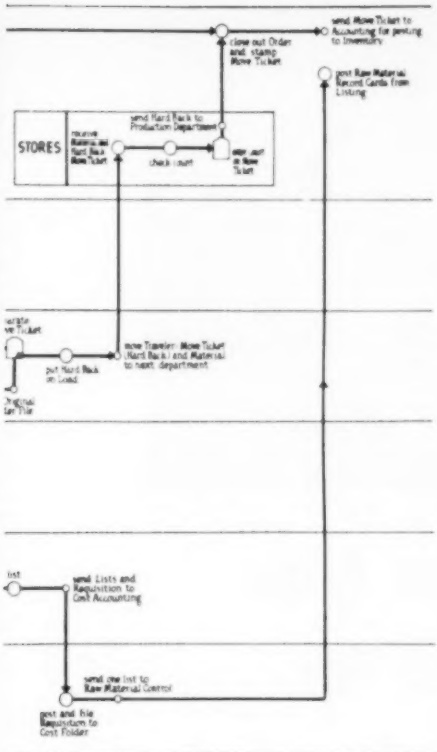
In many plants the consideration of these factors is performed by the shop supervision on an irregular and unsystematic basis. Unless extremely capable personnel are in charge, this usually results in an uncoordinated production program. This frequently means delays, substitutions, confusion, and uneconomic production.

A production control program is

No. 3 in Vital New Series

Published in November, 1952, and January, 1953, the preceding articles in this important series covered questions that must be answered if costs are to be kept under control in the operation of a wood industry plant, and gains in production obtainable with a streamlined plant layout.

Succeeding articles will discuss production and wage incentives. Inquiries on related problems from management readers will be welcomed by both the authors and the editors of WOOD AND WOOD PRODUCTS.


send Move Ticket to Accounting for posting to Inventory
close out Order and stamp Move Ticket
post Raw Material Record Cards from Listing
STORES
receive Material and Yard Rack Move Ticket
send Yard Rack to Production Department
check count
note out in Move Ticket
note Transfer: Move Ticket Yard Rack and Material to next department
put Yard Rack in Load
send Lists and Requisition to Cost Accounting
send one list to Raw Material Control
post and file Requisition to Cost Folder

PRODUCTION CONTROL flow chart shows step-by-step procedure for processing production order through plant

merely the systematic recognition and consideration of these factors in order that each factor is properly evaluated and co-ordinated into a production plan.

The responsibility of production control in each of these factors is described below:

1. **Control of issuance of production orders.** Because the production order is the basis for the control of all manufacturing operations, production control has jurisdiction over the issuing of such orders to the manufacturing departments.
2. **Inventory and procurement of raw materials.** Adequate control over the materials used in manufacture is a prerequisite of effective production control. Excessive inventories tie up working capital, and inadequate inventories cause delays in production. Production control should:
   - maintain adequate inventory levels;
   - determine desirable minimum and maximum inventory levels;
   - issue purchase requisitions for needed items;
   - be responsible for receiving, storing and disbursing all materials.
3. **Scheduling, dispatching, and progress of production orders.** Production control is concerned with the "when" of manufacture, the releasing of the needed orders to begin manufacture, and the follow-up on the progress of a manufacturing order.
4. **Methods analysis and routing of production.** This factor is the "how" of manufacture. Production control is concerned with:
   - determination of economical production methods;
   - tooling;
   - plant layout;
   - route of the production order.

A production control system centralizes responsibility for this co-ordination in a separate unit within the manufacturing department. This group will have detail procedures by which these factors are related. By these procedures, it translates the over-all production program into the specifics of *what*, *how many*, and *when* to make a product, and insures that all *needed* for this manufacture is *available*.

A part of production control's responsibility is the preparation and dispatching of manufacturing orders or instructions to the shop. Each department must receive instructions which are related to the planned manufacturing program.

To illustrate the kind of thing production control is concerned with, the processing of a production order through a large and successful wood products plant is diagrammed in the accompanying flow chart. This chart shows the step-by-step procedure followed each time a production order is released to the shop.

The success of a production control system depends on other factors besides proper procedures and organization. As in all other functions, the key to effective production control is the selection of a capable top executive. He must be aggressive in order to keep production on schedule, and yet must assume heavy administrative duties to assure that the detail and frequently complex procedures of his section are handled properly.

Shop Must Carry Through

Another factor in the success of a production control system is the need for co-operation between production control, whose job is to make the plans for production, and the manufacturing or shop group, whose job is to carry out the production plans. The best production planning is wasted time if the shop fails to carry out these plans.

When all departments in the organization are working as a team the management will realize the full benefit from expenditures for production control and investment in plant and equipment.

Production control is only a tool or means of obtaining economical production. Like many other tools of management, it must be employed to reach a specific goal. Management must actively decide on what it wants in terms of over-all production goals. Only when this goal is set, will production control be an effective tool in the planning and attainment of this goal.

Too often, it is felt that a production control system is an unnecessary frill which any good supervisor can supplant by using his individual ability. This is not the case as has been demonstrated many times in some of the best and most profitably operated wood and wood products businesses.

ADVANTAGES OF A GOOD PRODUCTION CONTROL SYSTEM

A successful production control system will result in many direct benefits to a company. It means increased efficiency and more profits because it will:

- **Improve worker efficiency by assuring that materials and tools are available at the proper time.**
- **Cut down over-all time of work-in-process by producing components when needed, and not before or after.**
- **Reduce the amount of inventory in storerooms and in work-in-process by better co-ordination and pre-planning of the use of inventory in the production of finished products.**
- **Improve man and machine utilization by pre-planning, both in their availability and in the amount of work to be done.**
- **Improve customer satisfaction by providing a sound basis upon which to project delivery promises and give the manufacturing department a valuable aid in meeting such promises.**
- **Provide management with a valuable and concise measurement of the effectiveness of plant operation.**

By E. HOWARD GATEWOOD, JR.,

Secretary, Wood Office Furniture Institute

W.O.F.I. Program Aims to Rebuild Market for Wood Office Furniture

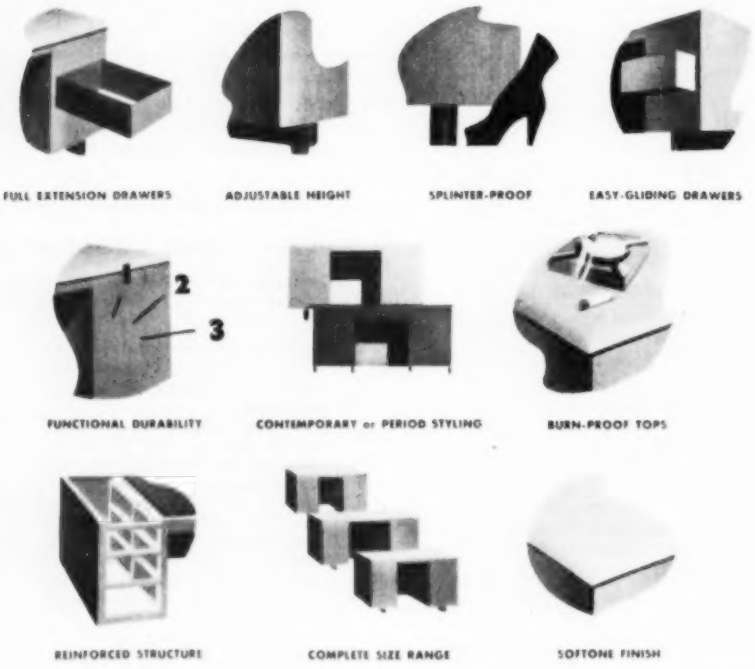
ALMOST EVERYONE in the hardwood industry is aware of the inroads made prior to World War II by products of "other materials" into the market once enjoyed almost exclusively by manufacturers of wood desks and chairs. Less well known is the series of postwar steps that have been taken to meet and beat that competition, to reverse the trend, and to increase the share of the market enjoyed by the hardwood industry.

During the war period priorities temporarily shelved sales problems for manufacturers in both industries. Production, not sales, was the headache. But progressive members of our industry, looking back and looking ahead, foresaw a period of intense postwar competition and decided to do something about it.

The first step was to define the problem in specific terms. An extensive survey under the Wood Office Furniture Institutes sponsorship among dealers and consumers pointed to a three-fold need:

1. The need for modernized designs and product improvements that would eliminate the sources of consumer complaints, both real and imaginary.

PRODUCT IMPROVEMENTS are a big weapon in wood office furniture's market fight. New chair above keeps secretary comfortable, spurs sales. Henry Glass desk design below has many unusual features. Other improvements at right



2. The need for better informed, better trained, more "loyal" dealers and dealer salesmen.
3. The need for aggressive consumer advertising and promotion.

The next step was to map out a co-operative program of specific projects to give relief to those three "needy areas."

Happily, in the past five years the first two areas have been given real attention with sparkling results, and the third is to be embraced in an extensive program to be gotten under way this year.

Let us go back to each "need" in turn.

The most frequent complaints about the product had to do with design, with splintering desk legs resulting in damaged nylons, and with drawers that stuck and exasperated the user.

To understand the serious consequences to our industry of what may sound like humorous sequences in a Hollywood short, you must recall the remarkable durability of good wood furniture. Up and down the land, in company after company, you find the founder's desk and chair still giving service—to the pride of the founder's grandson, but to the annoyance of his stenographers. Many of the wood desks and chairs in use pre-date the first metal office furniture!

Naturally, they are scarred, battered, and long since written off the books. In comes the competitive salesman with a product of recent design and the new is compared with the 20-, or even 50-year-old wood desk or chair.

Research for Better Products

So W.O.F.I., through the Timber Engineering Co.'s laboratory, undertook a series of experiments. Processes for densifying wellposts of desks were developed that made the desk legs splinter-proof. Designs were streamlined and produced in new space-saving sizes. Chemical treatment of drawers eliminated sticking and provided easy, gliding movement.

Individual members developed such items as adjustable typewriter pedestals, improved posture chairs, desks adjustable in height to fit the needs of the user.

Finish standards were set up and "certified" by the Institute to satisfy dealer demands. Faber Birren, the noted color consultant, was retained to study light reflectance problems. Out of Mr. Birren's research emerged a new light color, "Softone," scienti-

W.O.F.I. PROMOTION includes dealer helps, sales training, other activities shown here: (Top) Scale model planning and selling kit (see front cover), merchandising manual, dealer magazine, other literature. (Second row) Sales clinics. (Third row) Office planning book and "Magic Touch" movie. (Bottom) Office management show exhibits

of new products and ideas at this important association function.

Last year the Institute sponsored a student-design contest to stimulate interest among the upcoming generation of designers and architects in good wood design for desks and chairs.

All of these things have been done by a group of only 18 manufacturers out of an entire industry! For not all were farsighted enough to visualize the possibilities of recapturing their market position through joint efforts in a program no small manufacturer could undertake on his own with any reasonable expectation of success.

Strangely enough, while some desk and chair manufacturers in the United States have held back, five alert Canadian manufacturers have solicited membership and joined the Institute to make it truly American.

One big area—aggressive, all-out consumer promotion—remains virtually untapped. It is upon this phase that the Institute's sights are focused for 1953 and beyond.

Briefly, a program is being set up to supply individual subscribing dealers with a complete plan for selling packaged offices—backed by national advertising of this service to business-consumers through business magazines. The dealer will receive a complete scheme of color co-ordination to enable him to offer virtual decorator service to his customers, plus planning and sales tools.

The Institute has high hopes that this will constitute the big push to restore wood office furniture to its rightful and historic place in the market. For, while it is generally conceded that the dealer program has worked—and worked with astonishing success—and while the office fur-

Continued on Page 59

fically developed for ideal light reflectance and working efficiency.

Simultaneously, W.O.F.I. undertook an intensive program of dealer education. Dartnell Corporation, for sales training, and Henry J. Kaufman & Associates, for advertising and promotion, were hired as consultants. A comprehensive guidebook for retail operation, "The Office Furniture Merchandiser," covering everything from salesmen's compensation plans to advertising budgets, was developed and distributed to retailers.

"Trends," the W.O.F.I. house organ, crammed with sales and promotion ideas and suggestions, was created to furnish thousands of dealers with continuing monthly help.

PLANNING promotional campaign are members of W.O.F.I. shown above. (Right) Secretary Gatewood, Robert Spelman, assistant, and ad-advertising agency people. Note beauty of wood furniture in office pictured below

A new Trade Relations Division was set up and charged with holding sales clinics in metropolitan areas to demonstrate new techniques for selling wood office furniture. Pamphlets ranging from inexpensive handouts to a 32-page consumer booklet on "Office Planning for Profit" were created and supplied to dealers.

The Institute also sponsored a sales training film for vivid demonstration to the retailer—with a consumer version edited to tell our industry story to the buying public. This film, "The Magic Touch," has been shown to thousands of television viewers.

Annual exhibits at the National Office Management Association show were arranged as a group, and W.O.F.I. became a major exhibitor

Access Roads Are a Must— How Do We Get Them Built?

Uncle Sam vs. Private Industry Isn't the Way—Answer May Lie in Program Offered by This Lumberman

By JIM PARSONS
Secretary, National Resources Committee
Sandpoint, Idaho, Chamber of Commerce

BUILT by private operator for only $7,000 a mile, forest road above stands up in all weather year after year. (Left) New Forest Service road at right parallels still serviceable road.

TODAY'S NO. 1 NEED in the forested areas of our western states—which contain the largest remaining virgin forests in the nation, plus vast stands of reproduction—is a sound and continuing program of main access road construction.

Roads to open up one drainage after another are an absolute necessity if we are to have good forest management in every sense of that term.

Without roads, fire prevention and suppression often are uphill work. Control of the ravages of insect and disease is a herculean task. Loggers cannot cut over-ripe trees which are deteriorating and creating new hazards as well as blocking the growth of healthy new forests.

The access road problem is everybody's, not just that of people living in or adjacent to the forests. There isn't a citizen in the nation who doesn't depend upon forest products in one form or another in many phases of everyday life.

We may differ in our opinions of what constitutes good forest management, but on the need for main access roads into the forests there is general agreement. Western Pine Association, the National Association of Lumber Manufacturers, many private firms, Chambers of Commerce and other citizens' groups have recognized the acute need for a continuing program and are supporting its formulation by Congress.

The official Forest Service position was summed up recently in this statement by Mason B. Bruce of the division of timber management: "A major reason for the inability to harvest the sustained yield capacity of national forests is lack of timber access roads."

He pointed out that although the sustained yield capacity of the national forests is estimated to be "at least 6.6 billion board feet" annually, the 1942 cut was only 2.2 billion feet and by 1952 the cut was only 4.4 billion feet.

With main access roads a key to good forest management, the question naturally arises of who should plan, finance and construct them—federal government or private industry?

The intent of this article is to demonstrate that each has its place—along with a third and neglected partner, the public which owns the timber on federal lands. The public certainly ought to be concerned with such things as stumpage prices, road engineirng and construction costs, and timber sales and management policies!

To illustrate some phases of the access road problem, go to the Kaniksu national forest in northern Idaho, one of 19 in Region One of the U. S. Forest Service. These conditions are not local to Kaniksu, but are typical to all western national forests.

In April, 1952, the Kaniksu suddenly gave 10 day's notice that it would begin the 30-day advertising period for a sale of 82,000,000 feet of timber on Big Lightning Creek. This represents about half of the timber in the drainage, including the finest remaining virgin stand of white pine left in far northern Idaho.

The successful bidder, the Forest

Service announced, would be required to build a main access road estimated to cost $535,000.

Local lumbermen and interested citizens concerned about local economies immediately pointed out that probably only three firms in the entire northern half of Idaho could conceivably afford to make an initial outlay of approximately $1,000,000—the amount needed for the access road, spur roads, and down payment on stumpage.

Small and medium-sized firms, often the economic lifeblood of the communities in which they operate, were effectively barred from bidding on the timber. And more and more, they are becoming dependent upon their opportunity to bid on public owned timber if they are to stay in business.

The Forest Service claimed that a serious insect infestation made immediate logging necessary; that only by offering an unusually large block of timber for sale could the access road's cost be justified; and that there was need for immediate harvest because the main timber was over mature.

Through the Sandpoint Chamber of Commerce, the citizens pointed out that a recent Bureau of Entomology survey had listed Big Lightning Creek drainage as one of normal insect population. They suggested an alternative plan of breaking this big sale down by side drainages, with successive sales each bearing part of the main road cost. And they showed by a 1913 newspaper clipping that 40 years ago the Forest Service had announced that timber in Big Lightning Creek was over-mature and should be harvested!

Local county commissioners, engineers for private firms, and others familiar with forest road construction agreed that the proposed access road could be built for not to exceed $10,000 a mile, as against the Forest Service estimate of about $40,000 a mile. The difference lay mainly in *how the road was to be built*—and there is a growing feeling that the best road for a forest area is the *lowest cost road* for the job to be done or the traffic to be handled.

Only a few miles from the Forest Service's proposed $40,000-a-mile Big Lightning Creek road, a private firm several years ago built an access road of its own. It ran into Ruby Creek, where the terrain is similar. The road, built to high usage standards, was the first crushed rock road ever constructed exclusively for logging in far northern Idaho. It is an excellent road from every standpoint. It is available for fire suppression and prevention. Hunters, fishermen and picnickers always can use it. Nine miles long, it cost about $60,000, or less than $7,000 a mile.

Leave the Kaniksu for a moment and go to the Lolo national forest in Montana. In 1951, it had a sale of 14,200,000 feet on Rock Creek to be logged over a five-year period.

The successful bidder was required by sale terms to build seven miles of access road which the Forest Service had estimated would cost $52,000. Actual cost following Forest Service procedures was about $70,000.

What this road illustrates best is bureau insistence on higher standard construction than is justified under the circumstances. The Rock Creek road goes nowhere except to serve the current sale. There is no timber behind it to be logged—only mountains of rock. The Forest Service has indicated that when the present sale is concluded there probably will be no more timber offered for sale there for 25 years.

Besides logging trucks, the road is

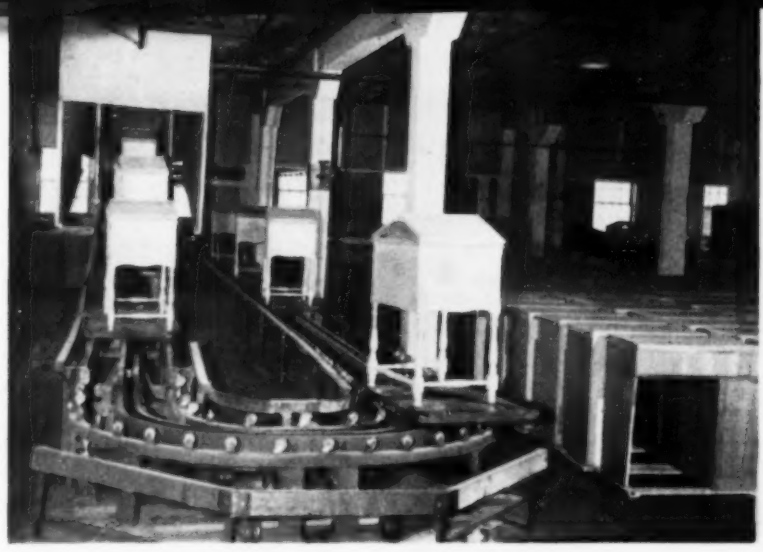
Continued on Page 68

RECOMMENDATIONS FOR A WORKABLE ACCESS ROADS PROGRAM

"Study the forest problem," said Jim Parsons, "and you come inevitably to these conclusions:

- **"Access roads are a must—for good management of forests, for a healthy economy, and to insure tree crops for the future**
- **"The federal government should *advance* monies for main timber access road construction.**
- **"If the access road program is to be sound, it must be continuing. For example, establish a revolving fund, to which road costs would be repaid as stumpage is cut. Don't depend on Congressional appropriations from session to session. However well planned, they are too subject to the vagaries of politics.**
- **"Federal agencies must re-examine their engineering and construction concepts and practices—and in doing so, a partnership with private industry should reach its fullest bloom.**
- **"The public—most concerned party of all, since it owns the timber lands—must have a hand on the brake through local public hearings when main access road construction is proposed. Neither federal agencies nor industry can make legitimate objection to this democratic procedure."**

PRIVATE OPERATORS use modern equipment and have "know how" to plan and build good access roads for long service at minimum cost



FROM STORAGE on floor above, inclined conveyor brings cabinets down. Pallets are 26 x 40 in., spaced 10 ft. 8 in. apart in normal operation

Conveyorized Finishing System Boosts Productive Man-Hours

BY CONVEYORIZING its cabinet finishing operation as illustrated here, the Rockford Cabinet Division of Free Sewing Machine Co., at Rockford, Ill., has geared its production to the rate of 90 cabinets per hour with a sharp reduction in the number of man-hours lost on non-productive transfer operations.

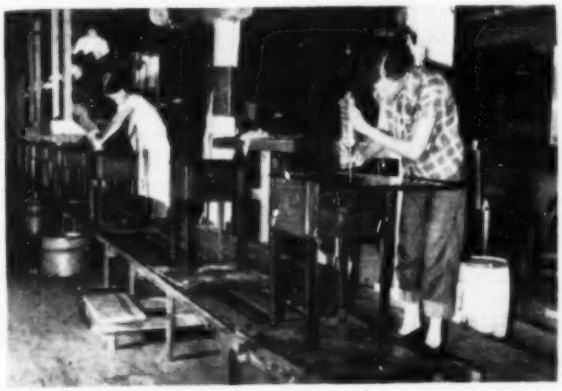
As described by Manager K. E. Deal, the speed of the new DeBurgh close-pack system is variable, but the 90-unit output rate has been found most satisfactory for this particular operation. The conveyor crew varies from approximately 75 to 90 people, depending on the type and design of cabinet being produced. The mile-long system accommodates about 1,500 pallets.

"We are able," reports Mr. Deal,

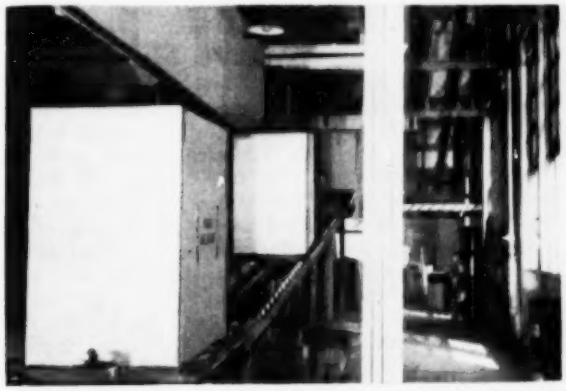
Continued on Page 76

CABINETS taken from storage area at left are checked and cleaned here before passing along to finishing section seen in view at right

SET UP along conveyor are eight spray booths. After each coat, cabinets are routed through drying ovens. Units are rotated by hand during spraying



RUBBING and polishing cabinets on conveyor. In background, conveyor loops back and forth for final air drying after passage through ovens



CARTONED cabinets move along conveyor to storage area. Three 5 h.p. motor drives are spaced to balance load and synchronized to maintain same speed

AT MENGEL'S Louisville 4th Street Plant, General Foreman Bill Robinson inspects dresser tops to which gallery rails have been mechanically glue-nailed. Glue-nailing of slat bearers to bed rails is seen at right

Output UP—Costs DOWN With Machine Nailing

THE MENGEL COMPANY, of Louisville, Ky., which in six years has set an almost incredible record of becoming one of America's largest manufacturers of bedroom furniture, has developed an automatic nailing program which is cutting thousands of dollars a month from production costs—and resulting in better made furniture.

The company began developing its lower-cost nailing program after H. T. Riggs, former chief engineer and now assistant to the president, had his department conduct exhaustive tests on three methods of attaching slat bearers to bed rails.

Following long accepted practice in much of the industry, Mengel was pre-boring the bearers, then glue-attaching them with screws inserted by automatic driver. H. Keith Williams, vice-president in charge of the furniture division, and Austin Sink, superintendent, had recommended use of a new type high-speed nailer which cuts its own nails and drives them at a speed of up to three per second.

Pitting the unit against the screw process, along with automatically driven five-penny coated nails, Mr. Riggs reported the automatic nailing method less costly and better. In closely controlled factory runs in which cost factors were figured out to three decimal points, the method was found to effect a saving of $650 per month over screws in the one operation of attaching slat bearers alone.

The automatic nailer caused no splitting, its nails wouldn't bend, better jointing resulted from a tremendous "squeeze" pressure it exerted—and it was decidedly the least costly of the three methods. The glue joint showed a breaking load of 1690 pounds, against 1398 for screws and 1143 for regular nails. Of additional importance, bearers held until the rail itself split.

Mr. Riggs also reported that the tests demonstrated less investment in machinery was required to attach the bearers. Mengel now has four of these high-precision nailers in use, has ordered a fifth, and top plant officials say "we have hardly scratched the surface in uses of this machine."

Jobs now being performed by Mengel's furniture division with the automatic nailing device include attaching gallery rails, stiffener rails, kicker strips, cleats, skid blocks, cap rails, various types of moldings on doors, drawers and fronts, apron blocks, and numerous others. It also is used for starting nails to be driven later by hand.

In some instances sub-assembly pieces have been respecified for automatic nailing since, in the words of Mr. Sink, "output is doubled, tripled or quadrupled, wastage is practically eliminated, a better glue joint is effected, and labor costs are cut as much as 90%."

Teco's Next 5-Day Glue Course March 23-27

The 5-day training course in wood adhesives and quality control in glued laminating, designed for furniture, woodworking and laminating plant operators and glue room personnel, will be held March 23-27 at the lumber and wood products laboratory of Timber Engineering Co., 1319–18th St., Washington 6, D. C.

The course is designed to present the latest developments on new glues and how to use them in meeting government specifications and improving on customer's requirements.

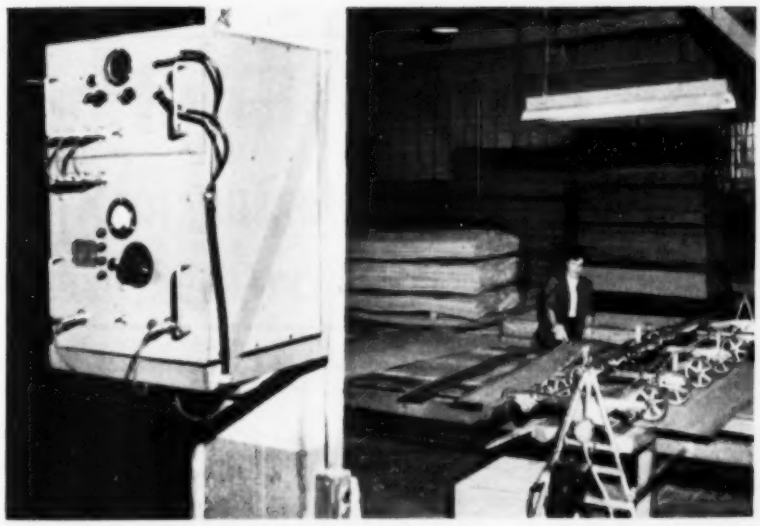
The first session will deal with basic wood technology for the layman. The second day will cover the subjects: how to prepare glue specimens for testing; how to recognize and handle factors affecting the strength of glued joints, and how to store and take care of adhesives.

Later sessions will include: how to test with "homemade" equipment; how to keep records on tests; what causes gluing trouble, and how to glue with high frequency. The final day will include a field trip to a nearby plant to see how others benefit from using modern gluing techniques.

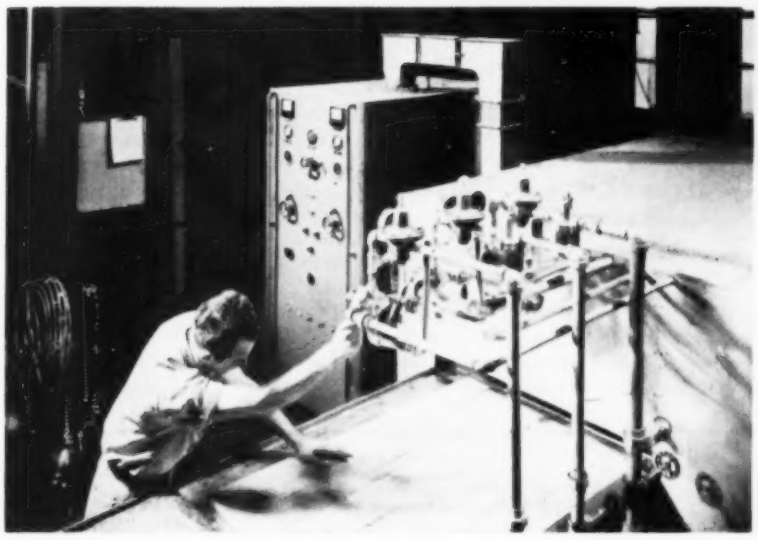
Article 5 in Series

What's the Right Moisture Content for Good Gluing?

By THOMAS D. PERRY



ADEQUATE MOISTURE CONTROL is problem in plywood manufacture, as above, and for good gluing in all woodworking plants. Device on post in top view is new automatic continuous moisture detector



Q. 45 Is there any danger of having lumber cores too dry for good gluing?

A. 45. The woodworker of 20 years or more ago would have said *no*, but his modern counterpart would say *yes*, and both would be right!

The older operator was accustomed to the conventional glues—animal, casein, vegetable and soybean—where the mixture contained about two thirds water to one third dry glue and the spreads were heavy, of the order of 75 lbs. of liquid glue per 1,000 sq. ft. of single glue line. Reduced to its simplest terms, this meant that about 50 lbs of water was distributed on one side of, say, 1/16 in. poplar crossbands, which weigh 2,130 oz. per 1,000 sq. ft. when dry.

Again, reducing to a square foot basis, it is equivalent to 0.8 oz. of water to 2.13 oz. of wood. Part of this water evaporates freely after spreading and during the lay-up, perhaps one-half, and another half of the remainder may be transmitted to the lumber core on the other side of the joint, resulting in a net of 0.2 oz. each on the crossband and on the outer 1/16 in. of the core.

This is something like 10% moisture content (over and above the original moisture of the core), and this excess must be dried out of the plywood or diffused deeper into the lumber core. Hence, a lumber core used with these older glues should be as dry as possible—5% or even 3% to 4%—to reduce redrying or diffusion requirements as much as possible. The older woodworker was right in answering *no*.

Let us turn now to his modern counterpart, who is using a urea resin adhesive for room temperature bonding. His mixture, with a reasonable amount of flour extender, will be about half water and half solids, and spread at the rate of about 40 lbs of liquid mixture per 1,000 sq. ft. of single glue line. The added water will be 20 lbs., instead of 50 lbs. as with the older glues, or about two fifths as much.

Skipping the intermediate figures, this will mean that the outer shell (1/16 in.) of the lumber core will receive only two fifths of 0.2 oz., or 0.08 oz. per sq. ft., which approximates 4% moisture content over and above what the original lumber core contained. This will diffuse into the lumber core without too much difficulty.

Experience has shown that urea resin adhesives do not penetrate readily into the wood and give a strong bond, unless the wood approximates 7% moisture content, which is about the normal equilibrium moisture content of wood in most work rooms. Hence, the modern woodworker, using a resin adhesive, must not

allow his cores to be drier than 7% moisture content, and his answer to the question must be *yes*.

Q. 46. How much does lumber shrink or swell per 1% change in moisture content?

A. 46. That will vary with the species and the direction in which it is cut. Shrinkage in lumber cores occurs below about 30% moisture content,

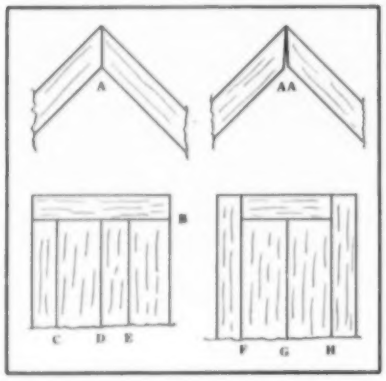


FIG. 1—Sketches showing where shrinkage can damage glue joints

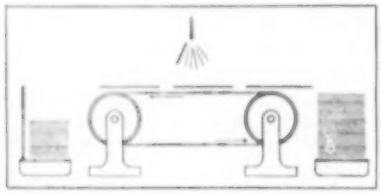


FIG. 2—Method of moistening crossbands for Tego gluing

the fibre saturation point, when all free moisture has been evaporated. An average shrinkage for most commercial species, between 30% and 5% moisture content (or 25% loss of moisture), would be about 5% loss of dimension. Radially (quarter sawn) the shrinkage will be less; tangentially (plain sawn) it will be slightly higher.

Hardwoods usually shrink somewhat more than softwoods. However, the general average of 5% shrinkage to 25% loss of moisture is a practical basis to use. In other words, 1/5 of 1% shrinkage to 1% change in moisture content is a fair average. (See *Wood Handbook*, Forest Products Laboratory, 1940, pp. 191-8.)

Q. 47. What does "equilibrium moiscontent" mean in everyday language?

A. 47. The definition given by the Forest Products Laboratory is: "*The moisture content at which wood neither gains or loses moisture when surrounded by air at a given humidity and temperature.*"

A complete table of equilibrium moisture content requirements is given in *Modern Plywood*.* A few examples will illustrate this. (See Table A.)

How long it will take wood to reach this equilibrium moisture content will depend on thickness, exposure and rate of air circulation over the surface. However, it affords a practical basis for moisture control in storage, and can be helpful in adjusting air conditioning apparatus. (See Answer 54.)

* Pitman Publishing Co., New York, Revised edition, 1948, pp. 392-3.

TABLE A

Approximate Equilibrium Moisture Content

Relative Humidity	70°F	85°F	100°F	115°F
%	% M.C.	% M.C.	% M.C.	% M.C.
20	4.4	4.3	4.1	3.8
25	5.5	5.2	5.1	4.7
30	6.2	6.0	5.7	5.3
35	7.0	6.6	6.4	6.1
40	7.7	7.5	7.2	6.8
45	8.4	8.2	7.9	7.6
50	9.3	9.0	8.8	8.2

Q. 48. What is the significance of expressing the moisture content of wood in percentages?

A. 48. This is an interesting question, since the weight or density of a species has an effect on the actual amount of water present. For example, dry basswood weighs 31.68 oz. (approximately 2 lbs.) per board foot, and at a 10% moisture content would contain 3.168 oz. of water. White oak weighs 56.64 oz. (approximately 3½ lbs.) and at 10% would contain 5.664 oz. of water, or nearly twice as much water by weight.

It is thus clear that the term "percentage of moisture", as currently used, is really a ratio of the moisture content of the wood based on the weight of the dry fibre structure. It may be, and usually is, misunderstood when comparing unlike species as far as the actual weight of water per board foot is concerned.

For most purposes this moisture content percentage measure serves satisfactorily, but there are instances, as in making hot pressed plywood with Tego film, where it may be misleading. For example, birch at

Continued on Page 72

TABLE B

Average Moisture Content of Wood in Various Areas (in Structures Heated for Human Comfort)

Geographic Area	January	July	Range
Highest Moisture Content	M.C.	M.C.	M.C.
New Orleans, L.	12.5	13.5	1.0
Hartford, Conn., & Boston, Mass.	7.0	13.0	6.0
Vancouver, B. C.	10.0	13.0	3.0
Savannah, G.	11.0	13.0	2.0
Tampa, Fla., & Mobile, Ala.	12.0	13.0	1.0
New York City	7.0	12.5	5.5
Cleveland, Ohio	7.2	12.0	4.8
Lowest Moisture Content			
Phoenix, Ariz.	10.0	4.0	6.0
Reno, Nev.	7.8	4.0	3.8
Salt Lake City, Utah	7.0	4.0	3.0
Winnipeg, Man.	4.0	10.0	6.0
El Paso, Texas	9.0	5.0	4.0
Fargo, N. D.	5.0	9.5	4.5
Montreal, Que.	5.8	11.2	5.4
Widest Range of Average Moisture Content			
Winnipeg, Man.	4.0	10.0	6.0
Hartford, Conn., & Boston, Mass.	7.0	13.0	6.0
Phoenix, Ariz.	10.4	4.0	6.0
Bangor, M.	6.4	12.0	5.6
Montreal, Que.	5.8	11.2	5.4
Toronto, Ont.	6.7	12.0	5.3
Chicago, Ill.	6.8	12.0	5.2

A complete table of the United States and Southern Canada was published in Wood Products for January, 1951.

The Ralph L. Smith Lumber Co.

has Consolidated its Remanufacturing Facilities at

ANDERSON, CALIFORNIA

Now a Thoroughly Modern and Integrated Plant Producing

MOULDINGS – INTERIOR TRIM – VENETIAN BLINDS

New Mattison Moulders — Turner Rip & Resaws — Jones Trim Tables
Years of Experience have given us the "know how" in moulding production

FRAMES & JAMBS

All of the Modern Machinery from Pondosa Pine Co. of Elgin, Oregon and several of the key personnel have been moved to Anderson, assuring the same high quality and precision manufacturing

GLUED PANELS AND CUT STOCK

Gillespie Electronic — Plycor & Clamp Carrier Glueing Equipment makes it possible to furnish unexcelled panels — Specializing in Furniture Parts — Drawing Boards — Luggage — etc. Shaping to pattern on Onsrud Automatic Shaper and sanding to a smooth finish on Yates Sander. Turning lathe work performed on Mattison Wood Lathe.

BOX FACTORY

High Quality Shook, both Calif. Fruit & Vegetable
And Industrial, is being Produced in the Factory

Our Own Large Timber Supply makes us a Dependable Source of Supply

The Ralph L. SMITH Lumber Company

WPA

ANDERSON, CALIFORNIA

GENERAL SALES OFFICE AT THE MILL

Task Group Offers 9-Point Plan to Curb Wood Waste

Small Sawmills, Veneer Production, Lumber Treating, Utilization Covered in Proposals to DPA

FROM WASHINGTON comes the announcement that the Conservation Coordinating Committee of the Defense Production Administration has received from its special Task Group on Wood Waste a detailed report containing the following recommendations on nine phases of the wood waste problem, which the group has been studying since its appointment more than a year ago:

1. Small Sawmill Standards

That the American Standards Association be asked to explore with appropriate organizations the possibility of developing performance standards applicable to small sawmills and saws, with a view to obtaining increased precision of sawing and reduced width of saw kerf.

2. Veneer Production

That the American Society of Mechanical Engineers be asked to study, through its Wood Industries Division, the possibility of bringing about improvements in peeling, patching, drying and sanding equipment and controls applicable to the production of wood veneer, with a view to increasing the yield from veneer logs and the reduction of waste.

3. Prelogging and Relogging

That the American Pulpwood Association be asked to advise on the possibility of stimulating the further development, and use by the small operators, of prelogging and relogging equipment, with a view to extending the utilization of trees not taken in main logging operations.

4. Permanent Committee

That the National Research Council be asked to consider the establishment of a permanent Wood Conservation Coordinating Committee, to be comprised of representatives of all interests—private and public—concerned with wood utilization, to advise and give guidance to the several groups responsible for the activities covered by recommendations 5, 6, and 7, and to stimulate other desirable wood conservation work, such as integration and regional coordination of forest industries, including the utilization of sawmill waste by pulp mills.

5. Sawmill Operator's Handbook

That a sawmill operator's handbook (pocket size), written specially for small operators and designed to increase efficiency and stimulate conservation, be prepared by the Forest Products Laboratory of the Department of Agriculture, with the advice and editorial assistance of an advisory committee composed of representatives of small sawmill operators, associations, manufacturers of equipment, technical societies, academic institutions and government; the advisory committee to be appointed by the Wood Conservation Coordinating Committee referred to in recommendation 4.

6. Chemical Utilization Research

That the National Research Council be asked to consider means of surveying and making continuously available to the public current information on research work being done by academic institutions, industry organizations and government agencies in the utilization of wood as a raw material for the production of chemicals, with a view to stimulating research in those areas in which present efforts appear to be inadequate.

7. Treated Lumber

That the Building Research Advisory Board of the National Research Council be asked, as a part of its current program of work, to consider and advise on means of increasing the availability of treated lumber in moderate quantities for use on small construction projects, such as residences and farm buildings.

8. Treatment Specifications

That all government agencies concerned be urged to utilize standard federal or accepted commercial specifications for timber treatment, and avoid wherever possible the preparation of unnecessary special specifications for individual projects.

9. President's Commission

That the recommendations of the President's Materials Policy Commission relative to wood conservation be endorsed, particularly those recommendations directed toward protection of timber against insects, disease and fire; research on wood utilization; and education and technical assistance to small operators.

Supporting Arguments

In supporting its recommendations the group pointed out, among other things, that 80% of primary manufacturing waste results from the production of lumber, and that a substantial part of this waste occurs in regions where timber land is very largely in small private holdings and a great number of small sawmills exists; that small sawmill deficiencies most readily amenable to correction are lack of precise sizing and excessive width of saw kerf, and that each 1/32 in. reduction in saw kerf results in an increase of about 2½% in softwood footage.

The group stated, further, that the estimated loss of wood in veneer production exceeds 50% of the log, and that considerable reductions in loss can be effected by improvements in equipment and control and the use of modern machinery. With an increase in demand for veneer logs in the period 1950-1975 estimated at 45%, strenuous efforts to reduce this form of waste were viewed as fully justified.

Development of equipment suited to the requirements of smaller prelogging and relogging operators was strongly advocated. It was pointed out that the use of wood as a raw material for the production of certain chemicals holds great possibilities from the standpoint of utilization of waste. Also, that if treatment extends the life of timber by four or five times, as in the case of poles or railway ties, the consumption of treated wood would be only one-fourth or one-fifth of what it would be if untreated.

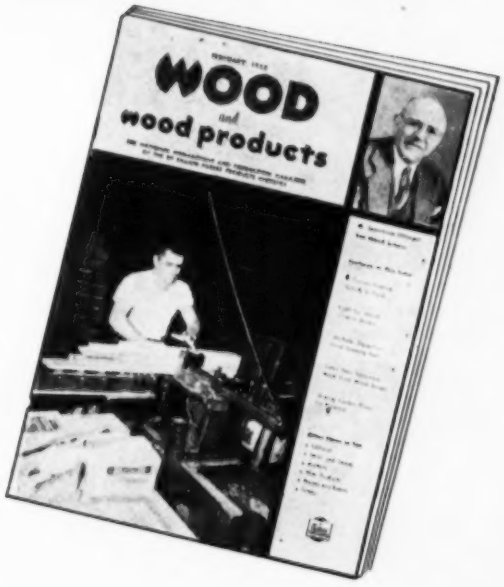
Another advantage of treatment was seen in the fact that it would permit the wider use of woods of low resistance to decay or insects and thus reduce the drain on the supply of more durable species. Residential and farm building were seen as two pro-

Continued on Page 74

If you're a reader, but not a subscriber— you can't afford to miss a single issue of

Wood & Wood Products

Every issue is packed with ideas that can make money for you!



Be sure you have your own copy every month!

Every month, WOOD & WOOD PRODUCTS gives you practical "know how" information that can help you get more economical production with greater efficiency.

For example: How layout changes can be made to pay off in your plant. Production shortcuts. Labor-saving ideas. Profitable waste utilization. New information on seasoning, finishing, packaging, gluing. Current markets—trends—news. Cost control. How to combat the inroads of "substitutes" on your market. How to meet changes or emergencies that affect your business. Ideas on operation, care and maintenance of machines and equipment.

P. S.—If you are a subscriber, and your renewal is due, be sure to send in your order now.

Yes, every issue of WOOD & WOOD PRODUCTS brings you information on trends, practices and developments that's worth many times the *penny a day it costs. It's the least expensive business insurance you can buy!**

***Or less, if you subscribe for 2 or 3 years.**

MAIL YOUR ORDER NOW!

WOOD & WOOD PRODUCTS
139 N. Clark St., Chicago 2, Ill.

Please enter my subscription to WOOD & WOOD PRODUCTS. My check (money order) is enclosed for:
[ ] $8 for 3 yrs. [ ] $6 for 2 yrs. [ ] $4 for 1 yr.
(Outside of U. S., Canada and U. S. Possessions, $10 per yr.)

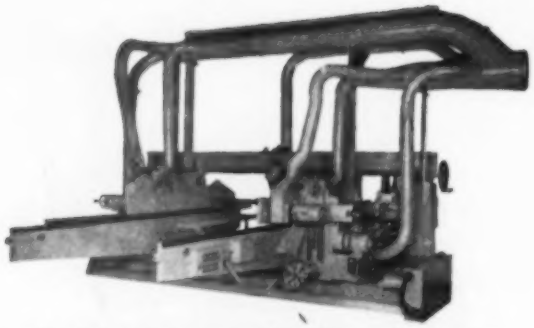
Name .....

Company .....

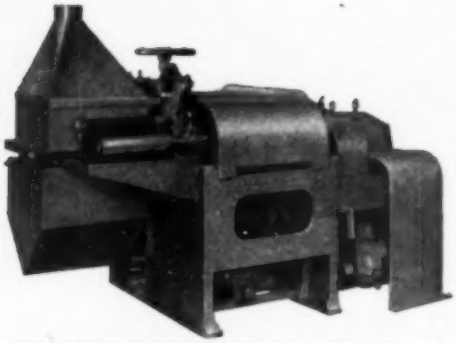
Address .....

City ..... **Zone** ..... **State** .....

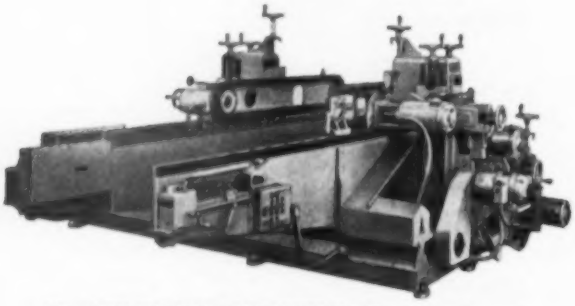
My title is .....



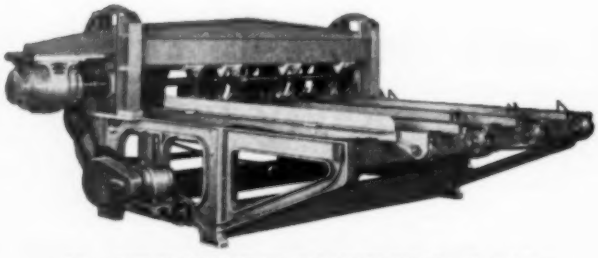
No. 400 DOUBLE-END TENONER—Sizes up to 20' to fit your requirements. Will square-cut up to 96" ahead of trim saws. Several accessories to multiply its usefulness. *Ask for Bulletin No. 400.*



No. 441 GANG RIP SAW—For fast production on the most difficult gang ripping jobs. Six power driven feed rolls...12", 19" or 24" saw space...up to 125 HP . . . variable feed drive up to 300 ft. per minute . . . glue joint accuracy. *Ask for Bulletin No. 441.*

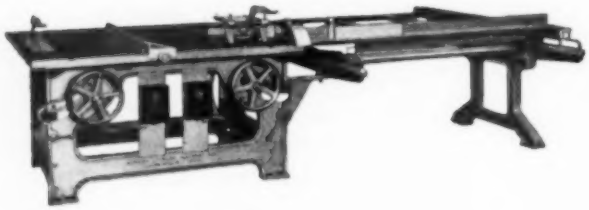


No. 300 DOUBLE CUT-OFF SAW—Accurate production at high rates of feed. Labor saving attachments such as cope motors, dado arbors and other devices are available for specific needs. *Ask for Bulletin No. 300.*

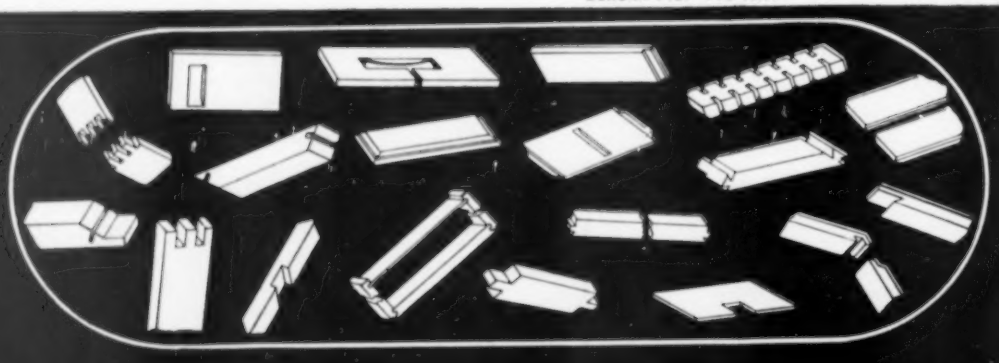


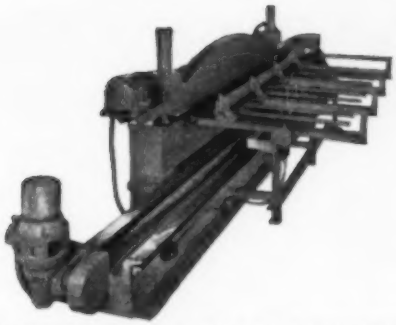
No. 435-H MULTIPLE CUT-OFF SAW—Cuts long boards into short pieces . . . will square cut large size sheets . . . and will cut any number of grooves. It's an excellent plywood sizer. *Ask for Bulletin No. 435-H.*

No. 477 CUT-OFF SAW—Capacity equals two or three swing, straight line or roller carriage cut-off saws—depending on the type and condition of the stock. Excellent for box work. *Ask for Bulletin No. 477*

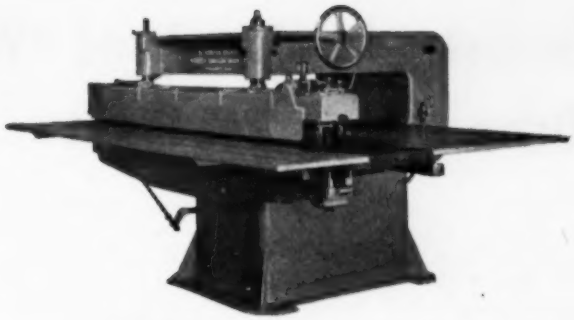


No. 442-MT COMBINATION SAW—Versatile machine for ripping, cross cutting, grooving, dadoing, beveling, mitering. Cuts up to 48" wide and rips up to 50" wide. Easily handles large stock. *Ask for Bulletin No. 442-MT.*



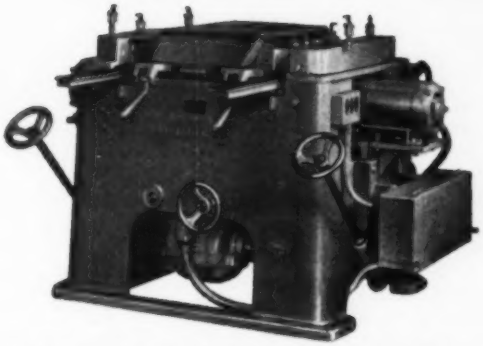


VENEER JOINTER—Traveling head principle eliminates shifting. No chain feed—no "stock wobble". Perfectly joints bundles of veneer up to four inches thick. Sizes from 90" to 212". *Ask for the Jointer Bulletin.*

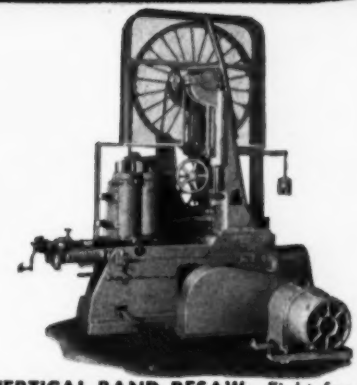


VENEER SPLICER—Makes precision tapeless joints. Adjusts itself automatically for varying thickness of veneer normally encountered. Welded steel frame with 49" throat clearance at right. *Ask for Bulletin No. 50.*

Speed Production...Cut Costs
Maintain Standards of Quality



No. 326 MATCHER-JOINTER—For sash and door, furniture and box factories—as well as many special uses. Adaptable for jointing hogshead staves. Unequalled for "T" and "G" work. *Ask for Bulletin No. 326.*



VERTICAL BAND RESAW—Eight feed rolls eliminate "stock wobble". Sizes 48" to 60". Variable feed drive; 100% ball and roller bearings. 54" Twin Band Resaw. Combination band rip and resaw. *Ask for Resaw Bulletin.*

with the

MEREEN-JOHNSON LINE

Write for Illustrated Bulletins

Mereen-Johnson MACHINE COMPANY

4401 LYNDALE AVENUE NORTH • MINNEAPOLIS 12, MINNESOTA

Industry Leaders Laud "Wood's" Drive for Market Fight

THE CAMPAIGN recently launched by WOOD & WOOD PRODUCTS calling for action to safeguard wood's markets against the onslaughts of competitive materials has stimulated constructive comments and suggestions from many industry leaders.

Most of the responses received up to this writing have been generated by the editorial, "Time to Fight for Wood's Markets," and the Henry Willins article, "How Oak Flooring Fights for One of Wood's Big Markets," both published in the January issue. But the beginnings of a similar response to the February editorial, "It's Later Than You Think!" and the accompanying article by Erle Racey, "A.W.W.I. Leads Fight to Save Market for Wood Windows," also are noticeable.

Letters have been received from top men in almost every sector of the forest products industry—lumber, flooring, furniture, dimension stock, veneer, woodworking machinery, and others—and all are unanimous in their agreement with the position taken by WOOD & WOOD PRODUCTS in challenging the industry to fight harder for its markets.

Outstanding among the positive steps they advocate are: More sales training, more aggressive and purposeful selling, more advertising and promotion, better manufacturing through mechanization and modernization of plant, equipment and processes, greater utilization, creation of new uses for wood through research, development and engineering, and reduction of production costs through every means possible.

All seem united on the need for more vertical group promotion (such as those of the oak flooring, wood window and wood office furniture interests), plus a unified industry program to sell wood.

Here are some of the early statements from WOOD & WOOD PRODUCTS readers:

CHARLES R. SLIGH, JR.

President, National Assn. of Mfrs. and Sligh Furniture Companies
Grand Rapids, Mich.

The article by Henry H. Willins is a good illustration of the importance of lining up the key facts in setting our sights for future achievements—whether it be oak flooring markets or wood products industries as a whole, or the national economy.

C. D. DOSKER

President, Gamble Brothers
Louisville, Ky.

The wood industry has waited far too long and, in many cases, markets which have been lost needlessly will not be regained. Before any real progress can be made, conditions will probably have to get worse.

I wish to congratulate your magazine on the tremendous effort which you have been making over the past few years to impress the woodworking industry of the necessity of research and product development and its influence in the retention of markets.

JOSEPH F. MERTES

President, Veneer Assn., and of R. S. Bacon Veneer Co.
Chicago, Ill.

Your comments are very timely indeed. I was very much impressed with the story that Henry H. Willins, secretary-treasurer, National Oak Flooring Manufacturers Association, told in his fine article on page 26, and this illustrates what can be accomplished in behalf of wood if a forceful and aggressive position is taken to inform the public as to the advantages of this material.

We in the veneer industry have the same problem, for during the past several years a number of products have been put on the market that are making serious inroads on the sale of genuine wood veneer. Unless very aggressive steps are taken to combat these substitutes, we may some day find ourselves without customers to purchase our products.

RAY C. DUBRUCQ

Vice President, Rockwell Mfg. Co.
Washington, D. C.

Constructive planning and then steps toward the end outlined in your editorial in the January issue are a No. 1 must in the woodworking industry. This is not a project for any one phase of the industry but presents a problem for everyone who in any way has to do with the production and utilization of wood in all its forms.

The combining of efforts can best be attained, in my opinion, through the medium of publications such as your excellent offering, including all that deal with any part of wood usage.

Henry H. Willins, of the National Oak Flooring Manufacturers Association, in his article in your January issue, is to be commended not only for his article, "How Oak Flooring Fights for One of Wood's Big Markets," but also on the real fight his association has put up against many well advertised and well sold substitutes. This sort of fight must be 100% across the board.

All wood products are facing wood substitution and will continue to see an increase if heavy resistance is not put to play. Not only must we retain our present market and regain the market that is lost but, through research, development and engineering, we should attempt to create new outlets.

Conservation of wood through modern equipment and processes, in plants logically located near sources of supply, tends to reduce cost of production. This is most important and is a subject in itself. Too many plants are operating under reverse conditions.

It all calls for cemented efforts, and I am sure the glue people will furnish the adherant, as it is their problem too!

T. C. MATHEWS

President, National Oak Flooring Mfrs. Assn.
Cincinnati, Ohio.

You and your publication are on the right track in alerting the lumber industry to the consequences of facing competition with complacency.

Wood products of many kinds unquestionably have felt the inroads of substitute materials. It is high time that the industry put its great collective strength behind aggressive measures for protecting and expanding wood's natural markets.

Wood still possesses all of the inherent qualities which have made it *more suitable for more uses* than any other material known to man. All that is required to restore wood to its position of eminence is more of the sales drive being exerted in behalf of its substitutes.

The following three-point program, I believe, would go far to put wood on the winning end of the "Fight for Wood's Markets":

1. More aggressive selling by producers of wood items.
2. More sales training and sales aids at the retail level.
3. Increased promotional work directed to the general public and to specific wood-using markets.

Many of the materials constituting the gravest threats to wood products are the output of large and well financed interests which are geared to high-powered selling procedures. In contrast, many wood items, to all practical purposes, are expected to sell themselves. It would be well for our manufacturers to take stock of their sales systems in the light of modern merchandising progress.

Competitive products, too, often are sold through retail channels where salesmanship is all-important. To meet this challenge, makers of wood products must work with their outlets in matters of sales training and product information.

Some factors in the lumber industry are carrying on extensive and profitable programs for educating the public to the advantages of their products. There is a need for more work of this kind, plus a unified program which will sell wood not as one particular specie or manufactured article but as the outstanding material it is.

The oak flooring industry, with which I have been long associated, has carried on an aggressive promotional program since 1946. We in this industry believe it has played an important part in maintaining oak flooring's dominant position in the face of exceptionally strong competition. The industry now is developing a sales training program through which it expects to further strengthen its position.

Being firm in the belief that anything that promotes the cause of wood helps all sectors of the wood products industry, we believe you are performing invaluable service by spotlighting the need for action.

PAUL E. KENDALL

Advertising Manager, West Coast Lumbermen's Association
Portland, Ore.

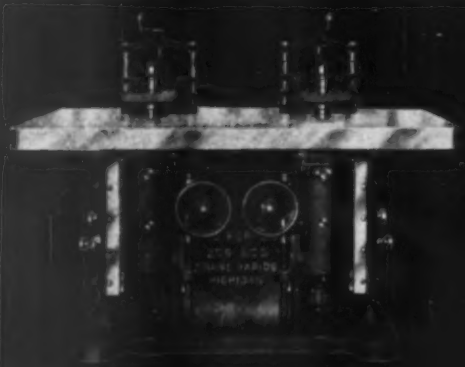
My friend, Henry Willins, secretary-treasurer of the National Oak Flooring Manufacturers Association, had a fine article in the January issue of WOOD & WOOD PRODUCTS. He is a real promoter of wood. His association has done a most outstanding job in influencing people to buy a wood product, oak flooring. And a most important reason for this great success is the fact that the National Oak Flooring Manufacturers Association has *consistently* and *continuously* advertised oak flooring for a longer period, I believe, than any other association of producers of lumber or wood products has advertised their products. They have proved the old saying, "Keeping everlastingly at it brings success."

I like your editorial, "Time to Fight for Wood's Markets." Long ago, it was time to build future markets for wood. It's so much easier to keep people liking and buying your product than to try to win them back after they are using some other product. As you say, "it's unfortunate that so much of this effort is delayed so long." Your editorial points out a number of things the lumber industry can do besides advertising—but let's not overlook the fact that all of these other things will not be enough when more and more people are *depending* upon producers to tell them why they should buy the product.

Advertising—business news—is as vital today as most of the general news in printed publications and other media. Sometimes it's even more interesting. The final consumer is getting further and further away from knowing about products because there are so many more products today. The purchaser gives less time to buying and the seller less

Finer finishing — sanding, smoothing, polishing — for all types of wood products.

ABRASIVE PRODUCTS, INC.
553 Pearl Street **South Braintree 85, Massachusetts**



206 DOUBLE SPINDLE SHAPER
A heavy duty shaper with heat-treated steel spindles and high-speed ball bearings. Spindle tops are self-centering and detachable. Mirror-smooth table. 8500 RPM's

405 SURFACER
Handles 11⅛" lengths without butting end to end. Has a matched V-belt drive for rotating the cutterhead at 6,000 RPM to assure clean, smooth, perfect work.

PORTER machinery is DIVIDEND DESIGNED

155 SERPENTINE SHAPER
Performs all types of curved or serpentine shaping. Tables run on ground and shaped dovetails. Two spindles with 12,000 — 18,000 RPM.

700 SURFACEMASTER FACING PLANER
All-steel construction, rugged as a battleship. Designed to accommodate conveyors. Infeed table and conveyor raise and lower together. Variable speed, 40 to 100 feet per minute. 24" and 36" widths. 3600 RPM with motor on arbor, 4800 RPM with belted motor drive.

105 SINGLE SPINDLE SHAPER
A high-speed, medium-sized shaper operating at 12,000 RPM's. Has the same rugged construction as the larger Porter machines. Also furnished as No. 112 double spindle shaper with same speed.

612 ROUTER
A heavy duty single spindle router. 2 speeds — 20,000 RPM and 12,000 RPM. Vertical table travel by foot pedal. Furnished also with sliding head. Other sizes also available.

300 JOINTER
Rigidly ribbed tables with aggregate length of 8'. Dovetailed steel lips, intermediate sliding table. 12", 16", 24", 30", 36" widths.

STRAIGHT LINE AND COMPOUND ANGULAR CUT-OFF SAWS
Keep perfect alignment, require less maintenance. Operate on hardened steel balls running in hardened and ground alloy steel raceways.

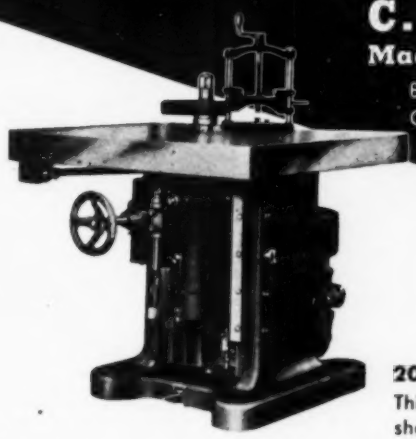
. . . to give you more production for every dollar you spend

Buying Porter **DIVIDEND DESIGNED** Machinery is like buying custom-built furniture at a popular price. You get so much more for your money. Your cost per job is less because Porter Machines are faster, take heavier cuts and require less adjusting. They have an extra margin of speed, capacity and strength not found in ordinary machines.
Porter's Master Mechanics have concentrated on building fewer machines better. Each machine is built by specialists with years of experience in building one particular type of equipment. They take pride in their work and produce masterpieces of mechanical skill, designed to give you a profit dividend.

DIVIDEND DESIGN means all this and more, too. It typifies the engineering skill for which Porter has become famous. It describes the Porter "FEEL" for planning that enables 3 men to do the work of 8, or 5 men to do the work of 15.

If you need a Router, Saw, Shaper, Planer, Carver, Jointer, Surfacer or Serpentine Shaper it will pay you to investigate Porter, the machinery designed to give you greater dividends.

HYDRACUT SAW
(Hydraulic or Air operated)
Automatically operated straight line cut-off saw saves manhours. Cuts from 0 to 45 strokes a minute.



203 SINGLE SPINDLE SHAPER
This heavy duty single spindle shaper handles a full range of work from light to heavy at 8500 RPM's.

C. O. Porter
Machinery Company
667 Front St., N. W.
Grand Rapids, Mich.

time to selling. Therefore, the public must be influenced in advance and must be told about the product through advertising—and that's exactly what our competitors know and are doing. If we remain silent they will get more of our business.

"Wood is better suited to more purposes than any other material," says Henry Willins in his article. Yes, but how many people know that now, how many of the coming generations will know it, unless the lumber industry tells them and continues to tell them never-endingly?

There is no future without markets. Business must plan and work ahead for its future. Retail dealers buy only what they can sell. Retail dealers sell only what the consumer will buy. The consumer makes and breaks markets. Continued consumer appreciation, preference, acceptance will hold markets for lumber.

The way to lose markets is to ignore the consumer. He is not being ignored by dozens of building materials which want him to use their material in place of lumber. Some have succeeded to a degree, others are on the way, and still others will never get there. But all these active competitors are at it harder than ever—working now to build future markets. Millions of pages in national publications are telling the consumer why these other products are "better than lumber" and some go even further and quite unethically point out what they say are the "weaknesses" of lumber.

Silence—on the part of lumber—is no cure for this or any other sort of competition. Silence does not build or hold markets. Lumber must talk to the consumers—millions of them—now, if it wishes to hold its place in the markets of the future.

The West Coast Lumbermen's Association for nearly seven years has been telling the story of wood and of West Coast Woods through national advertising campaigns. And it is working with the lumber dealers of the nation. The results have been gratifying.

Today these campaigns are building consumer friendship—and so building customers for tomorrow and helping to maintain wood as "America's favorite building material."

R. K. STEM

Chester B. Stem, Inc., President, American Walnut Mfrs. Assn. New Albany, Ind.

Will you please rush us two dozen reprints of your editorial, "It's Later Than You Think".

We certainly appreciate your interest in challenging all of us in the wood industry to fight for our future.

J. R. BEMIS

President, Ozan Lumber Co. and Southern Pine Association Prescott, Ark.

I have read with interest your editorial on page 19, as well as Henry Willins' article on page 26. I think both articles are good.

We all worry about retaining our markets, and about recapturing lost markets. These two points are, of course, very important; but I think we will go a long way in attaining this end if we make a better product that sells for less money and, equally important, is so manufactured that the retail dealer does not have excessive loss as a result of crooking or falldown from other cause. The retail dealer must know that if he buys a carload of material, he can sell that carload of material.

Of course, the only way to make a better product at a lower cost is to do a far better job of manufacturing, through mechanization and greater utilization. Actually, most of us are wasting too much of the volume of the log through inaccuracy in sawing and antiquated methods of manufacture.

Through These Doors
Pass The Best Kiln-Dried Lumber In The World . . .

Did you know you may now be paying for a Moore Cross-Circulation Kiln without getting its benefits? Write for information.

MOORE DRY KILN COMPANY
Oldest and Largest Manufacturers of Dry Kilns and Veneer Dryers
JACKSONVILLE FLORIDA · BRAMPTON ONT. CANADA · VANCOUVER B.C. CANADA · NORTH PORTLAND OREGON

NEW HIGHS IN PRODUCTION RUNS!
NEW LOWS IN PRODUCTION COSTS!
PROVE IT YOURSELF WITH...

ATKINS CARBIDE-TIP SAWS!

Silver Steel®
DURATIP

Saves wood... Saves time... Saves money!

AVAILABLE FROM STOCK...
IMMEDIATE SHIPMENT...
6" TO 18" DIAMETERS...
RIP AND CUT-OFF.

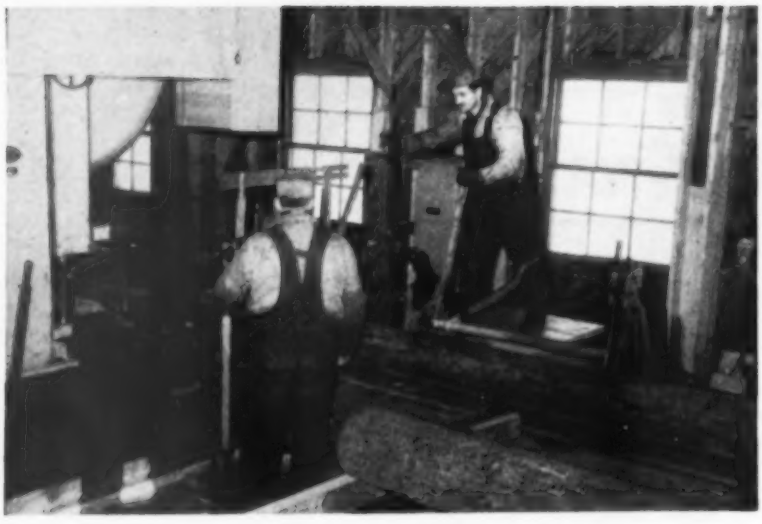
Call your Atkins Distributor now!

B-W PRODUCTION

ATKINS

ATKINS Silver Steel SAWS

Atkins Saw Division, Borg-Warner Corporation • Successor to E. C. Atkins and Company • Indianapolis 9, Indiana



PRACTICAL training at Quebec Sawmill School: Two men on carriage, one coaching the other

SAWYER TRAINING . . .

What Are You Doing About It?

Quebec Sawmill School Cited as Example of Good Program for Developing Profit-Minded Sawyers

TODAY IN THE UNITED STATES it is estimated that there are approximately 60,000 sawmills. More than 55,000 of these mills produce less than 1½ million bd. ft. of lumber each year. Their yearly output represents about 50% of total U. S. lumber production.

Woodlots, which comprise about 57% of the forests in the country, are their chief source of sawlogs. In these stands is a large percentage of the dwindling supply of top-grade timber, especially hardwoods. Through poor cutting and logging practices, inefficient sawmill operations and poorly trained sawyers, there has been great waste of timber resources.

Fortunately, there is a growing trend toward the marketing of the lumber produced by these mills through concentration yards and larger sawmills. The merchantable output of the small mills is delivered to these buyers, who grade and remanufacture the lumber into marketable products.

The problem facing the buyers of this lumber is the inaccurately manufactured lumber delivered to their yards—a result of sawyers who do not understand how to grade logs, how to saw for the highest grades, why it pays to saw on good, well-maintained equipment, or the know-how of operating a profitable mill.

Many of the lumber buyers who purchase from these small mills are seeking information on methods of training their operators and sawyers in the production of lumber that will yield the most top grades.

What is a sawyer's job? It is the most important one in the mill, as the type of lumber he produces determines the profit and loss factor. The sawyer must know:

1. Species and how to scale and grade his logs;
2. How to determine the best use of the log, whether peeler, saw, bolt or pulp log;
3. The quality each log will produce;
4. Which machines to use to obtain best cuts and utilization;
5. How to get the most out of his slabs;
6. Care and maintenance of the machines;
7. Saw filing and how to direct the change of saws, the use of steam, electricity, air and hydraulics;
8. The end uses and markets for the products he produces;
9. How to maintain high rates of quality production with a minimum of waste while keeping the safety of his sawmill crew always in mind.

In the United States we have been *making* sawyers rather than *training* them for this important job. It is time that we take a square look at this problem and do something about it, as did our good neighbor, the Province of Quebec. At their Sawmill School in Duchesnay they have established a carefully planned Sawyer Training Course.

This is a practical, intensive course requiring a full scholastic year. The students spend four hours daily, six days each week, in the classroom. An additional four hours each day, five days each week, are spent in the modern sawmill equipped with two band headrigs, band resaw, gang saw and a portable circular mill. Both hardwoods and softwoods are produced for the market in this mill.

The curriculum of the Duchesnay sawyers course is a broad one. It is designed to give the sawyer the background, technical and practical information that will best fit him to administer this most important sawmill job. The courses are:

GENERAL—French, English, Science and Mathematics.

TECHNICAL—Woodcutting and sawing, wood technology, dendrology, lumber grading, lumber scaling, applied mechanics, applied mathematics, utilization, logging, forest legislation, accounting, saw filing, machinery and tools, safety and first aid.

PRACTICAL—Sawing, lumber grading, job safety training, lumber scaling, practical dendrology, saw filing, installation and overhauling of machinery, sawmill layout, timber appraisal, log grading and scaling, forge, welding, electricity, and industrial drawing.

This training is designed to make the sawyer almost a saw filer, a millwright and a lumber grader as well as a sawyer. It also fits the student to become a small sawmill operator.

YOUR IDEAS, PLEASE!

The editors of WOOD AND WOOD PRODUCTS recognize that the establishment of sawyer schools in the United States represents a number of problems. They are needed for both large and small mill operations. Readers are invited to submit their ideas and suggestions. Well-trained sawyers in our sawmills will insure better products and profits, and a better industry.

OLD HICKORY NELSONIZES

furniture for:

1 dimensional stabilization,

2 weatherproofing,

3 base coat in finishing,

4 storage protection.

OLD HICKORY FURNITURE COMPANY

C. W. PATTON, PRESIDENT

BUILDERS OF

DISTINCTIVE RUSTIC FURNITURE

MARTINSVILLE, INDIANA

January 10, 1953

Mr. P. M. Deane, President
Nelsonite Chemical Products, Inc.
Grand Rapids 2, Michigan

Dear Mr. Deane:

Many thanks for your letter of December 31 with reference to our experience with Nelsonite.

We have been using Nelsonite as a dimension control and weather proofing agent for approximately a year and a half and during this time the results have been very satisfactory.

In our Provincial group, which includes complete living room, dining room, and bed room, and many occasional pieces, we are using nearly 100% solid woods. Many of these pieces are carried in white from 60 to 120 days before finishing and we have found that Nelsonite makes an excellent protective agent for this extended storage period.

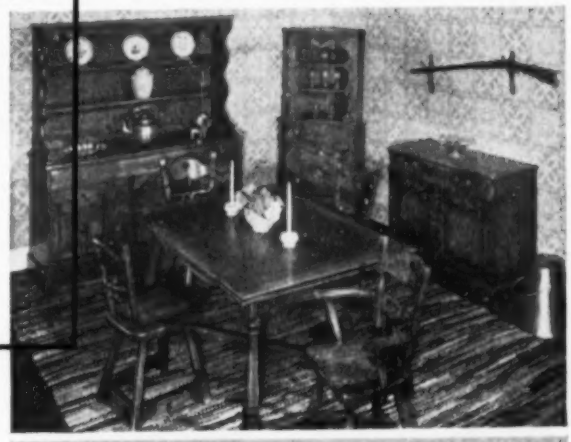
In our outdoor group which includes many types of barbecue tables, occasional pieces, chairs, settees, and upholstered frames, we are using Nelsonite as a base coat, followed by one coat of spar varnish. This has proven to be more satisfactory than our previous method of finishing.

Very truly yours,

J W Gootee

Old Hickory Furniture Co., Inc.

JWGootee/rt



Whether it's an INDOOR or OUTDOOR wood product...

MORE AND MORE MANUFACTURERS ARE NELSONIZING THEIR PRODUCTS!

Why don't you learn more about it? ☛

MAIL COUPON TODAY FOR FREE SAMPLE

52-A

Nelsonite Chemical Products Inc.
900 Monroe Avenue, N.W., Grand Rapids 2, Michigan

Gentlemen:

We are interested in a Nelsonite formula for the following wood and wood products:_____

Please send us sample to meet our individual specifications, and suggested tests for us to make, at no charge.

Company_____

Address_____

City_____ Zone____ State_____

FOREIGN WOODS

By George N. Lamb

PORCUPINE WOOD

Centrolobium spp.
Leguminosae (Pea) family

PORCUPINE WOOD is the trade name in the United States for the genus Centrolobium which is found from Panama southward through Brazil to Paraguay. The trees range from medium to large. For the most part, this lumber is of rather infrequent occurrence but the trees are well formed. Because of its large yellow purplish flowers and its rapid growth it is often planted for ornamental purposes in the tropics. The bark and roots produce a reddish sap that is used as a dye but it is not color fast.

The wood usually is of fair to good quality but it exhibits a considerable range of color. The heartwood is yellow or orange and is typically variegated but with exposure changes to red or brown. The yellowish sapwood is sharply defined. The lustre is medium to high. It is without distinctive odor or taste. It is variable in density but mostly hard, heavy and strong. Sp. gr. (air dry) 0.75 to 1.00. The texture ranges from fine to rather coarse. The grain is straight to irregular. It is stable, easy to work and finish. In Brazil it has a recognized market and is highly esteemed as a cabinetwood. In Venezuela it is in demand for cabinetwork and fine furniture. It would have import prospects if it could be found in quantity. Other names:

Colombia	Balustre, colorado
Venezuela	Balustre, cartan
British Guiana	Kartang, redwood
Brazil	Arariba, putumuju, Panrainba

Other woods called PORCUPINE WOOD:

Malaya	Pandanus sp.
Tropics	Cocus nucifera

"Best information in the field on humidification problems!"*

Free booklet gives complete answer to • humidification troubles in woodworking industry . . . leads to greater profits!

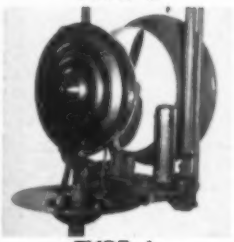
*That's how the president of a large Michigan plant describes our booklet, "Humidity Control in the Wood Working Industry."

Packed with essential humidification facts, this booklet takes up humidity conditions in every phase of your operation . . . tells how to lessen warping, shrinking, checking — how to speed up your operation, lower your costs, secure better quality control and step up your profits.

The booklet's yours for the asking — and we'll send along information on the widely used Bahnson Type E, H, and L Humidifiers that provide positive humidity control at less initial cost —less operating cost—less maintenance cost!

You can actually operate high capacity Bahnson Humidifiers for as little as $10.00 per year per unit!

TYPE E



TYPE L

FREE!

MAIL TODAY!

For your free copy of this fact-filled booklet, sign your name, clip coupon to your letterhead and mail immediately.

NAME_____

POSITION_____

Bahnson Company
ENGINEERS AND MANUFACTURERS
WINSTON-SALEM, N. C.

SAPUCAIA or MONKEY POT

Lecythis spp. (Lesythidacene)

LECYTHIS is a genus found throughout a wide portion of tropical America, principally in South America. There are numerous but very imperfectly known species. The trees vary considerably, but in Brazil they may reach a diameter of 5 to 6 feet and have a clear length of 50 to 60 feet. Trees usually are buttressed. LECYTHIS is a nut-bearing tree and the nuts are sold as SAPUCAIA-nuts in Brazil and are also known as paradise or cream nuts in the export trade. The laminated bark supplies material for oakum and cigarette papers. The sap is said to supply a refreshing drink.

The heartwood is brown to dark salmon red and is sharply demarcated from the yellowish sapwood. It is low in luster and without distinctive taste or odor. It is very hard, heavy, compact, tough and strong. Sp. gr. (air dry) 0.85 to 1.10. The texture is medium fine and uniform. The grain is fairly straight, difficult to work and finishes smoothly. It is suitable for heavy construction and appropriate for the same uses as bullet wood. Bullet wood recently has been given considerable publicity because comparative tests at the Yale Forest School showed its great superiority over oak in strength.

Other names:

Costa Rica	Cocobolo, olla de mono
Panama	Olla de mono
Colombia	Olleto de mono, coco de mono
Venezuela	Olleto
British Guiana	Monkey pot, wadaduri
Surinam	Kwatta-pot
Brazil	Sapucaia

Other woods called SAPUCAIA:

None

Continued on Page 75

GROUP SHOTS taken by "Pat" Patronsky during first university carbide course at Ann Arbor

Carbide Tool Use and Care Studied in Special Courses

First University School Held at Ann Arbor—Red Lion and Carboloy Also Sponsor Recent Courses

CARBIDE TOOLS for the woodworking industry—their use, care and maintenance—were the subject of a special course held during the week of January 26 at the University of Michigan, Ann Arbor, under the auspices of the Department of Wood Technology, School of Natural Resources. The attendance totaled 30, both students and instructors, drawn from all parts of the United States and from Canada.

The course featured practical demonstrations utilizing various grinding machines and techniques now available to the industry. The first university course of its kind, it proved successful and will be repeated next September.

Meanwhile, two specialized schools in the use of carbide woodworking tools had been held last August and October by the Carboloy Department of General Electric Co. at its plant in Detroit, with about 15 men attending each five-day course. More recently, the Redco Tool Division of Red Lion Cabinet Co. also held a successful carbide tool grinding class at its Red Lion, Pa., plant, with upwards of 30 men in attendance.

The Ann Arbor course was given under the direction of L. A. "Pat" Patronsky, associate professor of wood technology. Following a short talk by Professor Fred Dickinson, chairman of the department, "Pat" opened the course with a lecture and slides show-

RED LION, Pa., was scene of this carbide tool grinding class staged by Redco Tool Division of Red Lion Cabinet Co.

ing the cutting action of various saws and knives at different speeds and cutting angles.

Another feature was a metal cutting demonstration conducted by Professor W. W. Gilbert of the Department of Production Engineering, University of Michigan, the purpose of which was to point up the differences in tool life analagous to wood cutting. Pete Backstrom of Firth-Sterling, Inc., and Rex Reynolds, of Kennametal, Inc., assisted.

The second day was spent at the Carboloy plant in Detroit, where the manufacture of tungsten carbides was observed and brazing techniques demonstrated under the guidance of Paul Kunz and Ted Weill of Carboloy. Lectures and discussions on grinding wheel manufacture and selection, led by Warren Hardy of Norton Co., and H. J. Jeffers and John Ripple of Carborundum Corp. took up one morning session. Two afternoon sessions were devoted to demonstrations and instructions on various types of grinding machines, led by Cliff Garrison, of Oliver Instrument Co., Jim Tompkins, of Ekstrom, Carlson & Co., Bill Sack, of Hanchett Mfg. Co., and Al Feldman, of Rockwell Mfg. Co.

The design and testing of wood cutting tools was the subject of a morning's session led by Carl Chekouras, of Yates-American Machine Co., with the aid of slides exhibited by "Pat" Patronsky. The latter also conducted a practical demonstration of wood cutting at various speeds. A demonstration and discussion of methods of handling, storing and shipping carbide tools was led by Jim Stein, of Redco Tool Division, and Al Feldman.

"PAT" PATRONSKY, director of carbide course at Ann Arbor

Those in attendance, besides the men mentioned above, included: R. D. Brooks, of Firth-Sterling, Inc.; Rust Gray, of G. M. Diehl Machine Works, Inc.; Glen Bruneau, Wood Technology Laboratory superintendent; J. F. Koellisch, WOOD & WOOD PRODUCTS, and the following students:

Les Brown and Pat O'Reilly, Pat O'Reilly Co., Houston, Texas; Clifford Butterworth, James T. Donnolly Co., Ltd., Toronto, Canada; Robert Eckart, Keller Mfg. Co., Corydon, Ind.; Steven Koczan, Singer Mfg. Co. South Bend, Ind.; Scott McLean, L. F. Strassheim Co., Merrill, Wis.; William W. Parsons, Hawker Mfg. Co., Dayton, Ohio; Donn Van Stee, Van Stee Corp., Jamestown, N. Y.; Aubrey E. Wylie, College of Forestry, Syracuse, N. Y.; Warren Wetherton, Butler Specialty Co., Chicago.

"STUDENTS" at carbide school held by General Electric's Carboloy Dept.

Precision in manufacture and careful heat-treating of the material insures accuracy of performance in these heads. For consistent uniformity and reliability, be sure to buy . . .

EKSTROM, CARLSON

ROUND HEADS and SQUARE HEADS

Write for New Catalog

EKSTROM, CARLSON & CO.
1400 RAILROAD AVE.
DEPT. W-7
ROCKFORD, ILL.

MACHINERY AND TOOLS SINCE 1904

ECCO

FPRS National Meeting Technical Program Announced

Full Panel of Speakers to Key Papers to Current Industry Problems

R. D. Pauley, Weyerhaeuser Timber Co., Tacoma, Wash., program chairman for the FPRS national meeting, scheduled for Memphis, Tenn., June 15-17, has announced the preliminary program of technical sessions. Pauley and his committee members have spent a great deal of effort to secure a full panel of speakers to discuss current industry needs and interests.

Committee members, in addition to Pauley, include Charles Latimer, Nickey Bros. Inc., Memphis, Tenn.; Alan A. Marra, School of Natural Resources, University of Michigan, Ann Arbor; B. E. Clatworthy, Radio Corporation of America, Indianapolis, Ind.; George G. Marra, Washington State Institute of Technology, Pullman, Wash.; and L. A. Patronsky, School of Natural Resources, University of Michigan.

The preliminary schedule of technical sessions and papers is as follows:

SESSION I

Monday, June 15, 2:00 P.M.

Theme: *Quality Control*

Program arranged by: Charles Latimer, Nickey Bros, Inc., Memphis, Tenn.

"Statistical Quality Control of Thickness of Lumber Core Panels" by Jack Lawlor, National Store Fixtures Co., Inc., Baltimore, Md.

"Quality Control in Furniture Manufacture" by Richard C. Calahan, Ass't. Supt. Inspection Dept., Singer Manufacturing Co., South Bend, Ind.

"Effective Quality Control on End Product" by Robert M. Ripley, Douglas Fir Plywood Association, Tacoma, Wash.

"Some Applications of Statistical Quality Control to the Drying of Lumber" by Willard E. Pratt, California Redwod Association, San Francisco, Cal.

SESSION II

Monday, June 15, 2:00 P.M.

Theme: *Glues and Gluing*

Program arranged by: Alan A. Marra, School of Natural Resources, University of Michigan, Ann Arbor, Mich.

"Making the Glue Work" by Ralph Casselman, Paine Lumber Co., Oshkosh, Wis.

"Gluing of Preservative-Treated Oak for Severe Service Conditions" by John Kuenzel, Bureau of Ships, Washington, D. C., N. V. Poletika and H. B. McKean, Timber Engineering Co., Washington, D. C.

"Techniques for Gluing Metal and Plastics to Wood" by Jac Tigelaar, Haskelite Co., Grand Rapids, Mich.

"Properties and Applications of Amino Resin Adhesives and Binders" by E. B. Detwiler, American Cyanamid Co., New York, N. Y.

"Study of the Durability of Woodworking Glues in Different Types of Assembly Joints" by M. L. Selbo, Chemical Engineer, and W. Z. Olson, Technologist, U. S. Forest Products Laboratory, Madison, Wis.

SESSION III

Tuesday, June 16, 9:00 A.M.

Theme: *Chemical Utilization*

Program arranged by: program committee chairman R. D. Pauley, Weyerhaeuser Timber Co., Tacoma, Wash.

"Hardwood Pulping as a Utilization Tool—Some Recent Investigations" by John N. McGovern, Div. of Pulp and Paper, Forest Products Laboratory, Madison, Wis.

"Outlook for the Utilization of Mesquite" by E. D. Marshall, Lufkin, Tex.

"Wood in a Gulf Coast Chemical Plant" by V. B. Volkening, Chemical Engineer, Dow Chemical Co., Freeport Tex.

"Some Experiments on the Chemical Utilization of Wood Waste" by Dr. H. Schwartz, Supt., Forest Products Laboratories, Ottawa, Can.

SESSION IV

Tuesday, June 16, 9:00 A.M.

Theme: *Containers and Protective Packing Materials*

Program arranged by: program committee, R. D. Pauley, chairman.

"Development of Design Data for Solid Fiberboard Shipping Containers" by K. Q. Kellicutt, Engineer, and E. F. Landt, Technologist, Forest Products Laboratory, Madison, Wis.

"Wood Pallets" by Walter E. Morgan, Morgan Lumber Sales Co., Columbus O.

"Research in the Packaging Field" by John M. Ladd, Manager Designing and Testing Laboratory, General Box Co., Des Plaines, Ill.

"Wood Fiber Felts for Protective Packing" by E. O. Lieberg, Manager, Sales Engineering Section, Wood Conversion Co., Cloquet, Minn.

"Craveneer as Used in the Packaging Field" by A. L. Whiton, Sales Manager, Chicago Mill and Lumber Co., Chicago, Ill.

"Ply-veneer Shipping Containers" by J. R. Roberts and A. M. Fisken, Development Dept., Weyerhaeuser Timber Co., Longview, Wash.

SESSION V

Tuesday, June 16, 2:00 P.M.

Theme: *Wood Finishing*

Program arranged by: B. E. Clatworthy, Radio Corporation of America, Indianapolis, Ind.

"Solubility, Water Absorption and Swelling of Free Films of House Paint" by Dr. F. L. Browne, Forest Products Laboratory, Madison, Wis.

"Preparation of Wood for Finishing" by O. B. Gordon, Behr-Manning Corp., Chicago, Ill.

"Factors Affecting the Integrity of a Furniture Finish" by P. O. Blackmore, Director, Basic Development Laboratories, Interchemical Corp., New York, N. Y.

"Filler—The Theory and Technique of Application" by R. I. Quigley, Vice-President, The Lilly Co., High Point, N. C.

"Comparison of European and American Finishes" by E. Sigurd Johnson, Professor, North Carolina State College, Raleigh, N. C.

SESSION VI

Tuesday, June 16, 2:00 P.M.

Theme: *Wood Composition Board*

Program arranged by: George G. Marra, Washington State Institute of Technology, Pullman, Wash.

"The Potential Supply of Raw Materials for Wood Composition Boards" by Elmer Matson, U. S. Forest Service, U. S. Department of Agriculture, Portland, Ore.

"Specific Examples of Raw Wood Utilization for Composition Products"

"Douglas Fir Plywood Mill Leftovers"

"Dry Process Hardwood from Ponderosa Pine (Wood work waste) Edward A. Patton, Curtis Co., Clinton, Ia.

"Douglas Fir Slabs, Edgings and Bark" (Wet Continuous Process Hardboard) by W. J. Runckel, Oregon Lumber Co., Dee, Ore.

"Kiln Dried Leftovers from Furniture Operations" (Dry Process Panel) by H. C. L. Miller, Miller

Hofft, Inc., Richmond, Va.
"Competitive Uses for Raw Materials Suitable for Composition Products"

SESSION VII

Wednesday, June 17, 9:00 A.M.
Theme: *Wood Machining and Equipment*
Program arranged by: L. A. Patronsky, School of Natural Resources, University of Michigan, Ann Arbor.
"Designing Cutterheads for Maximum Production" by Carl Chekouras, manager cutter div., Yates-American.
"New Horizons in Production Through the Use of Cemented Carbide Tools" by C. E. Drake, President, Drake Corp., St. Louis, Mo.
"A Case History of Cemented Carbide Tools" by Singer Manufacturing Co., South Bend, Ind.
"High Speed Production of Flooring"
"Some Engineering Aspects (or Problems) of the Planing Mill" by Peter Koch, Stetson-Ross Machinery Co., Seattle, Wash.

SESSION VIII

. . Wednesday, June 17, 2:00 P.M.
Theme: *General*
Program arranged by: program committee, R. D. Pauley, chairman.
"Wood Preservation by Double Diffusion" by Roy H. Baechler, Div. of Derived Products, Forest Products Laboratory, Madison, Wis.
"Recovery of Solvent From Impregnated Wood" by M. S. Hudson, Taylor-Colquitt Co., Spartanburg, S. C.
"The Air Seasoning of California Redwood" by Victor H. Clausen, California Redwood Association, San Francisco, Cal.

JAMESTOWN
Specials

BAL-CO-PLY non-warping door stock — engineered for cabinets and furniture parts that require a practically WARP PROOF plywood.

JAMESTOWN A GRADE BIRCH skillfully matched for grain and color . . . lumber or fir core.

JAMESTOWN NORTHERN RED OAK — we cut our own veneer from selected Red Oak . . . lumber or fir core.

JAMESTOWN CHAUTAUQUA COUNTY NATURAL Hard White Maple.

. . . also Walnut, Mahogany, Rift and Plain White Oak as well as other Plain and Exotic Woods.

any of the above in all standard thicknesses with lumber, fir or veneer core.

JAMESTOWN VENEER and PLYWOOD CORPORATION
Jamestown 2, N. Y.

JAMESTOWN
HOT PRESSED RESIN BONDED
Multiplied Strength
PLYWOOD

minimum prices may be had on quantities of 100 of size and kind, in truckload or carload lots.

Nominating Committee Present Names for 1953-54 FPRS Posts

With March 15 the last date for filing names of candidates through committee channels, one national and two regional nominating committees have reported progress.

The national nominating committee has to date announced the following candidates:

For president-elect—L. J. Carr, L. J. Carr Co., Sacramento, Cal. Les is currently vice-president of the society.

L. J. Carr

For vice-president—Moss B. Christian, Chicago Mill and Lumber Co., Tallulah, La. Moss is presently south central regional board member.

The Southeast regional nominating committee has presented one candidate, Walter Buehler, Lakeland, Fla., as successor to the post currently held by E. E. Dargon, Conway, S. C.

The south central regional has not yet reported.

Hamer Elected President of Appalachian Group

A record attendance marked the recent three-day Silver Anniversary meeting of the Appalachian Hardwood Manufacturers, Inc., in Cincinnati,

Ohio, at which J. P. Hamer, J. P. Hamer Lumber Co., Kenova, W. Va., was elected president. Norman J. Warner, Warner Lumber Co., Asheville, N. C., was named vice-president.

Newly elected directors are: *Southern West Virginia*–Donald R. Mower, Mower Lbr. Co., Charleston, W. Va.; *Northern West Virginia*–F. L. Dakin, Cherry River Boom & Lbr. Co., Scranton, Pa.; *Kentucky*–C. R. Wilson, Inter-Mountain Coal & Lbr. Co., Putney, Ky.; *Tennessee*–C. E. Wright, J. Walter Wright Lbr. Co., Bristol, Tenn.; *North Carolina*–Joseph L. Noyes, Marshall Lbr. Co., Marion, N. C.; *Virginia*–P. W. Plumly, P. W. Plumly Lumber Corp., Winchester, Va.

At Large–Charles Bringardner, Martins Fork Lbr. Co., Lexington, Ky.; E. D. Currence, Elk River Coal & Lbr. Co., Swandale, W. Va.; R. H. Ely, Ely-Thomas Lumber Co., Camden-on-Gauley, W. Va.; T. M. Millett, Millett Hardwood Lbr. Co., Louisville, Ky.; John C. Turner, W. M. Ritter Lbr. Co., Columbus, Ohio; E. P. Vaughn, Vestal Lbr. & Mfg. Co., Knoxville, Tenn.; John B. Veach, Hardwood Corp. of America, Asheville, N.C.

Forestry Division–T. J. Mitchell, Poinsett Lbr. & Mfg. Co., Pickens, S. C.; F. H. Halstead, The New River Co., Mt. Hope, W. Va.; T. D. Poore, American Association, Inc., Middlesboro, Ky.; C. G. Queen, Ford Motor Co., Peabody, Ky.

Retiring president T. M. Millett emphasized the need for more energetic trade promotion, more effective selling, more efficient production, and less federal taxation. To avert the loss of outlets of aluminum, plastics and steel, it is going to be necessary to make use of abundant data to show that wood is superior to the competing substitutes, he said.

John B. Veach, chairman of the board, NLMA, discussed the urgent need for trained lumber salesmen to successfully combat the expansion of the metals and plastics industries. Due to a changed attitude toward the lumber industry, Mr. Veach considered it entirely feasible to carry through a program of training designed to recruit a corps of salesmen with a high educational background. In conclusion, he gave an outline of a salesman's training course now under preparation by the NLMA.

COMING EVENTS

March 5-6: Eastern Canadian Section, FPRS, Royal York Hotel, Toronto, Ontario. Secretary A. R. Coleman, 4866 Wilson Ave., Montreal, Quebec.

March 6: National Plywood Distributors Association (Western Section) Sir Francis Drake Hotel, San Francisco, Cal.; March 11: (Northeast Section), Warwick Hotel, Philadelphia, Pa.; April 3: (Midwest Section), Edgewater Beach Hotel, Chicago, Ill.; April 8: (Southern Section), St. Charles Hotel, New Orleans.

March 9-10: FPRS National Executive Board Meeting at Peabody Hotel, Memphis, Tenn.

March 19: Permanent Hardwoods Exhibit opening, Museum of Science and Industry, Chicago, Ill.

March 23-27: Five-day course in wood adhesives and quality control in glued laminating at lumber and wood products laboratory of Timber Engineering Co., 1319 18th St., N. W. Washington, D. C.

April 8-10: Annual meeting Southern Pine Association, New Orleans, La.

April 16-17: Two-day meeting of FPRS Ohio Valley Section, at Chester B. Stem Co., New Albany, Ind., and U. of Louisville, Louisville, Ky.

April 28-30: Annual meeting American Wood-Preservers' Association, Cleveland, Ohio.

May 6: One-day meeting of FPRS Northern California Section, at San Francisco.

MAKE "CLEAN" MORTISES
ON FAST SCHEDULES
WITH GREENLEE TOOLS

To make *accurate* mortises easily, swiftly and economically, equip with *high quality* GREENLEE Hollow Chisels and Bits. Long-lived and fast-clearing, these GREENLEE tools add speed to your production, *precision* finish to your products. GREENLEE Hollow Chisels and Bits are made by the originators of hollow chisel mortisers. And GREENLEE produces a complete line of these tools for hard or soft wood and all makes of machines. Write for new illustrated folder M-159 describing these and other GREENLEE tools for mortising, boring, and routing.
Greenlee Tool Co., 2153 Herbert Avenue, Rockford, Illinois.

TOOLS FOR CRAFTSMEN
GREENLEE

HOLLOW CHISELS • MACHINE BITS • DRILLS
ROUTING BITS • MULTI-SPUR BITS • PLUG
CUTTERS • COUNTERSINKS • MAKERS OF TECO
GROOVING TOOLS FOR TIMBER CONSTRUCTION

CURRENT LUMBER PRICES

These prices are made available by George Land, publisher of the weekly *Hardwood Market Report*, in his copyrighted issue of February 7, 1953. For the entire list, contact Mr. Land, Box 5716, Memphis 4, Tenn.

Note: Each price change from preceding issue is marked by an asterisk (*).

SOUTHERN HARDWOODS

F.O.B. mills—Texas and Louisiana area. Estimate of present mill point average ceiling price, sales made subsequent to January 25, 1951, to consuming trade on band-sawn Southern Hardwoods in carload quantities, random widths and lengths, rough air dried and graded in accordance with NHLA rules on inspection. Prices in dollars per M ft. On straight cars of upper bracket grades premiums are frequently being paid.

ASH—FIRM TEXTURE

	FAS	No. 1C	No. 2C
4/4-in.	155	110	62
6/4-in.	170	120	67
8/4-in.	180	140	70

BASSWOOD

4/4-in.	160	125	80
6/4-in.	170	135	87
8/4-in.	180	145	90

BEECH

4/4-in.	125	100	55
6/4-in.	140	110	60
8/4-in.	167	127	72

CHERRY

	FAS	No. 1C	No. 2C
4/4-in.	220	150	90
6/4-in.	240	170	95
8/4-in.	250	180	100

RED GUM—PLAIN

4/4-in.	205	150	75
6/4-in.	230	170	75

RED GUM—QUARTERED

4/4-in.	220	165	75
6/4-in.	250	190	90
8/4-in.	260	200	95

SAP GUM—PLAIN

4/4-in.	120*	100*	48*
6/4-in.	127	107	50
8/4-in.	155*	130	

HACKBERRY

4/4-in.	110	90	60
6/4-in.	120	100	70
8/4-in.	135	110	75

SOFT MAPLE—WHAD

4/4-in.	130	110	67
6/4-in.	145	120	77
8/4-in.	155	125	80

SOFT MAPLE—WHND

4/4-in.	115	90	60
6/4-in.	130	105	75
8/4-in.	135	110	80

RED OAK—PLAIN

4/4-in.	175	100	63*
6/4-in.	190	130	
8/4-in.	200	140	

WHITE OAK—PLAIN

4/4-in.	180	112	63
6/4-in.	200	140	
8/4-in.	205	145	

PECAN

4/4-in.	110	90	40
6/4-in.	125	105	60
8/4-in.	155	130	65

POPLAR—PLAIN

	FAS	S & S	No. 1C
4/4-in.	165	155	125
6/4-in.	185	175	140
8/4-in.	205	195	150

SYCAMORE—PLAIN

	FAS	No. 1C	No. 2C
4/4-in.	115	95	60
6/4-in.	125	105	60

TUPELO— PLAIN

TUF TEXTURE—DEEP SWAMP

4/4-in.	120	100	48
6/4-in.	127	107	50
8/4-in.	155	130	

WILLOW

4/4-in.	130	110	60
6/4-in.	142	122	67
8/4-in.	150	126	70

APPALACHIAN HARDWOODS

F.O.B. mills—Johnson City, Tennessee area. Estimate of present mill point average ceiling price, sales made subsequent to January 25, 1951, to consuming trade on band-sawn Appalachian Hardwoods in carload quantities, random widths and lengths, rough air dried and graded in accordance with NHLA rules on inspection. Prices in dollars per M ft. On straight cars of upper bracket grades premiums are frequently being paid.

HARDWOOD
FURNITURE
DIMENSION

•

Solid & Glued
Cut to Size
Run to Detail

•

Superior Quality, Ample Capacity
All Commercial Species

•

BRADLEY LUMBER CO. of Arkansas
WARREN, ARKANSAS

YA® Yates-American

"BIG FOUR" NEW DESIGN* SAW

*Patented

"Big Four" New Design* Saws have a heavy body which serves to eliminate stiffening collars. Blades are carbide tipped by the exclusive temper-saving "Big Four" technique and are true running because your job specifications determine length of the fin. Fin is held to minimum length so every tooth does its share. Teeth are milled (not stamped) from tempered steel plates and are free from internal strains. This is the ultimate in saws.

YA® Yates-American
BELOIT, WISCONSIN

TOUGH ASH

	FAS	FIF	No. 1C	No. 2C
4/4-in.	170	160	115	68
6/4-in.	190	180	125	76
8/4-in.	200	190	150	85

BASSWOOD

				No. 2A
4/4-in.	180	170	130	85
6/4-in.	190	180	137	90
8/4-in.	195	185	147	96

BEECH

				No. 2C
4/4-in.	145	135	110	65
6/4-in.	160	150	120	75
8/4-in.	170	160	130	80

BIRCH

4/4-in.	230	220	150	80
6/4-in.	245	235	160	85
8/4-in.	250	240	165	90

BUCKEYE

4/4-in.	135	125	100	65
6/4-in.	165	155	115	73
8/4-in.	170	160	120	78

CHERRY

4/4-in.	220	210	150	90
6/4-in.	240	230	170	95
8/4-in.	250	240	180	100

CHESTNUT

	FAS	No. 1C	FAS WHND	1C & B WHND
4/4-in.	165	115	135	125
6/4-in.	170	120	140	130
8/4-in.	175	125	150	140

HICKORY

	FAS	FIF	No. 1C	No. 2C
4/4-in.	125	115	78	53
6/4-in.	145	135	86	58
8/4-in.	170	160	90	60

HARD MAPLE

4/4-in.	195	185	125	80
6/4-in.	205	195	140	84
8/4-in.	210	200	145	90

SOFT MAPLE

4/4-in.	160	150	115	67
6/4-in.	170	160	125	69
8/4-in.	175	165	130	72

RED OAK—PLAIN

4/4-in.	185	175	120
6/4-in.	200	190	125
8/4-in.	215	205	145

WHITE OAK—PLAIN

4/4-in.	200	190	125
6/4-in.	220	210	145
8/4-in.	225	215	155

WHITE OAK—WHND

	FAS	FIF	C & B	No. 1C
4/4-in.	125	115	95	90
6/4-in.	150	140	120	115
8/4-in.	160	150	130	120

YELLOW POLAR—PLAIN

	FAS	FIF	No. 1C	No. 2A
4/4-in.	210	200	135	88
6/4-in.	220	210	145	93
8/4-in.	225	215	155	95

POPLAR SQUARES

	FAS	No. 1C & 3D
4x4-in.	245	175
6x6-in.	280	190
8x8-in.	340	240

WALNUT—STEAM TREATED

	FAS 6' & up	FIF 6' & up	No. 1C	No. 2C
4/4-in.	370	320	180	75
6/4-in.	395	345	215	90
8/4-in.	415	365	235	95

Walnut list reflects average fob mill, all areas. Basing point not generally observed.

NORTHERN HARDWOODS

Estimate of present f.o.b. Wausau, Wisconsin mill point average ceiling price sales made subsequent to January 25, 1951, to consuming trade on band-sawn Northern Hardwoods in carload quantities, random widths and lengths, rough air dried and graded in accordance with NHLA rules on inspection. Prices in dollars per M ft. On straight cars of upper bracket grades premiums are frequently being paid.

BROWN ASH

	FAS	No. 1C	No. 2C
4/4-in.	145	105	73
6/4-in.	155	130	83
8/4-in.	160	130	88

BASSWOOD

4/4-in.	180	135	78
6/4-in.	190	135	88
8/4-in.	195	145	96

BEECH

4/4-in.	145	100	68
6/4-in.	160	115	78
8/4-in.	165	120	80

BIRCH

4/4-in.	265	145	80
6/4-in.	275	160	90
8/4-in.	280	175	100

ROCK ELM

4/4-in.	135	115	65
6/4-in.	145	125	75
8/4-in.	150	135	80

SOFT ELM

4/4-in.	125	105	71
6/4-in.	135	115	81
8/4-in.	140	120	84

HARD MAPLE

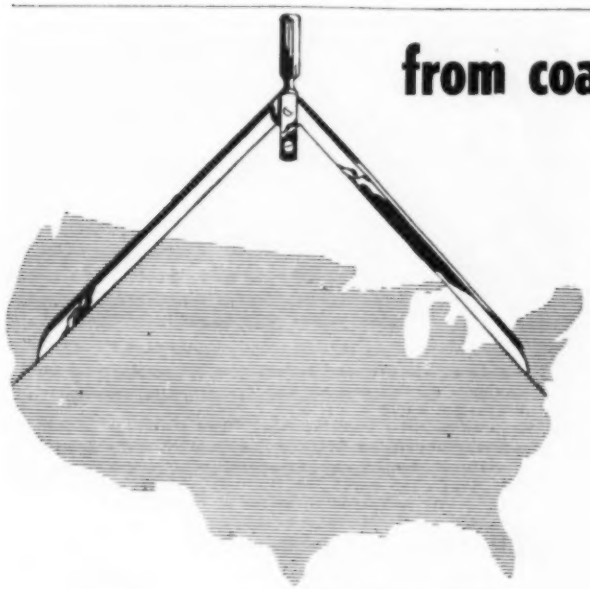
4/4-in.	190	130	78
6/4-in.	200	140	81
8/4-in.	205	145	88

SOFT MAPLE

4/4-in.	155	120	72
6/4-in.	170	130	82
8/4-in.	185	140	90

RED OAK

4/4-in.	175	125	77
6/4-in.	185	145	83
8/4-in.	195	155	85



from coast to coast . . .

Gamble Brothers serves manufacturers of fine wood products. Solid or laminated hardwoods (roughed out or finished, flat, shaped, or curved), even plastic-faced materials are made to your specifications and ready to assemble.

Whoever you are . . . wherever you are . . . whatever your needs in hardwood . . . ask Gamble Brothers to serve you. Gamble Brothers' more-than-fifty years' experience in woodworking can solve your problems quickly and economically without sacrifice of style or quality. Counsel and engineering assistance from Gamble Brothers entails no obligation.

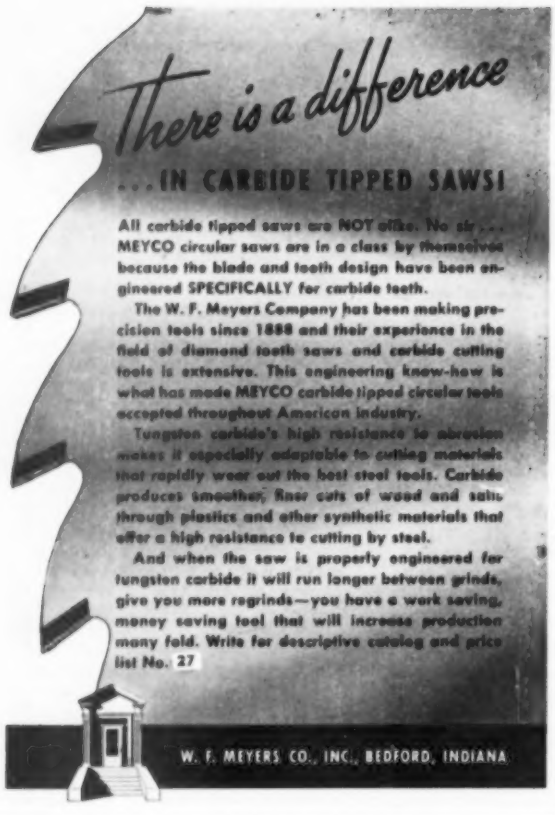
Write today!

Engineered Wood Parts in Southern and Appalachian Hardwoods, Walnut, or Mahogany.

GAMBLE BROTHERS, Inc.

Offices and Main Plant: Louisville 9, Ky.
DIMENSOWOOD Division: Montgomery, Ala.

GAMBLE BROTHERS GB GUARANTEED BOND INCORPORATED


There is a difference
...IN CARBIDE TIPPED SAWS!
All carbide tipped saws are NOT alike. No sir... MEYCO circular saws are in a class by themselves because the blade and tooth design have been engineered SPECIFICALLY for carbide teeth.
The W. F. Meyers Company has been making precision tools since 1888 and their experience in the field of diamond tooth saws and carbide cutting tools is extensive. This engineering know-how is what has made MEYCO carbide tipped circular tools accepted throughout American industry.
Tungsten carbide's high resistance to abrasion makes it especially adaptable to cutting materials that rapidly wear out the best steel tools. Carbide produces smoother, finer cuts of wood and saws through plastics and other synthetic materials that offer a high resistance to cutting by steel.
And when the saw is properly engineered for tungsten carbide it will run longer between grinds, give you more regrinds—you have a work saving, money saving tool that will increase production many fold. Write for descriptive catalog and price list No. 27
W. F. MEYERS CO., INC., BEDFORD, INDIANA

WOOD PUZZLERS

This department is designed to help find answers to your production and sales problems. Let us know what information you need. Experience has shown that other readers may be able to help you.

93—Novelty Wooden Boxes

We are interested in finding a manufacturer of small, novelty wooden boxes. Can you help us find such a manufacturer, preferably in the east? (Va.)

94—Machine for Making Dominoes

One of our customers in Brazil wants to manufacture wood dominoes. They already have a woodworking plant where they produce wood toys. Our friends believe that in the United States automatic or semi-automatic machinery for this purpose is available. We would appreciate it if you can tell us what type of machines are suitable for this purpose and where they could be obtained. (N. Y.)

95—Wood Carving Machine

I am interested in securing a wood carving machine—new or used—for carving wooden toys. Could you supply me with the names of manufacturers who make such a machine? Thank you in advance for any information available. (Ill.)

SHIMER
Engineered for Production
EASED EDGE HEAD
for clean, fast, low-cost
• EASED EDGING
• MATCHING
• PLAIN JOINTING
• SIDING
• SHIPLAP
Here is a ruggedly built cutter head designed for extreme long service under the severest cutting conditions, yet a head that can't be surpassed for ease in adjusting, accuracy in pattern cutting and versatility of use! Six-bit model (pictured) and four-bit model both equipped with self-centering feature and clearance-protected, milled-to-pattern bits that hold their pattern permanently! (Securely positioned bits are adjustable for various thicknesses of stock).
WRITE FOR YOUR FREE COPY OF OUR ILLUSTRATED PATTERN BOOK!
SAMUEL J. SHIMER & SONS, Inc.
70 RACE STREET ★ MILTON, PENNA.
SHIMER

It pays to use bits and cutters that are engineered for maximum service and trouble-free performance. Onsrud cutters are made in our own modern plant, exclusively devoted to cutter manufacturing. They are designed with specially developed ONSRUD features, carefully ground to accurate dimensions, tempered under automatic control. Known the world over for their long life and ability to cut freely and smoothly under all conditions.

get this new CUTTER CATALOG

72 pages. Fully illustrated. Lists hundreds of cutters and bits, available in standard patterns or made to order. Send for this valuable and informative book today.

"Onsrud on Cutters is like Sterling on Silver"

Onsrud Cutter Manufacturing Co.
802-22 E. Broadway
Libertyville, Illinois

NEW and IMPROVED PRODUCTS

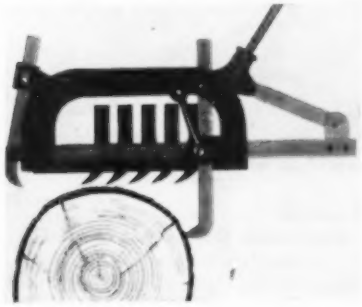
Cable Lumber Lift

The Moore Dry Kiln Co., Dept. WP, P. O. Box 4248, Jacksonville 1, Fla., announces the Moore Cable Lumber Lift which is designed for the dual feeding of cut-off saws. It is also used for feeding lumber to planers and similar machines; for unstacking lumber; for raising loads to a higher level;

and for manually stacking lumber loads. According to the manufacturers, the Moore Cable Lumber Lift should be able to pay for itself in a short time through reduced costs and increased production. Write to the Moore Dry Kiln Company for complete information.

Carriage Dog

A new non-defacing carriage dog designed to accommodate any size cant from 3½-in. to 20-in. without adjustment has recently been announced by the McDonough Manufacturing Co., Dept. WP, Eau Claire,



Wis. This carriage dog has a series of 5 teeth so arranged that those below the top of the piece to be held are automatically pushed back out of the way and the one above the piece will hold it firmly when the closing lever is pulled down. This lever works on a positive cam action which locks the dog and holds the piece firmly until released. An upper spur dog is also provided which can be adjusted to hold logs up to 40-in. in diameter.

Carbide Tips for Saws

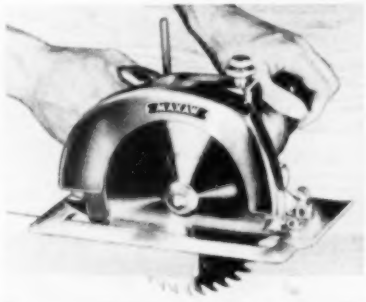
Production of 20 standardized solid tungsten carbide tips for circular woodcutting saws has been announced by the Carboloy Department of General Electric Co., Dept. WP, 11103 E. 8 Mile Rd., Detroit 12, Mich.

Eight of the standard tips which have been recommended by industry to the American Society of Mechanical Engineers as the most popular sizes will be stocked items. The non-stock tips will be sold at stock item prices when purchased in quantities of 500 or more.

The tips will be made in Carboloy Grade 883 for general purpose applications. They will also be available in Carboloy Grade 44A for heavy duty work.

Electric Hand Saw

Applying the construction feature of magic pivot, Cummins-Chicago Corp., Dept. WP, 4740 W. Ravenswood, Chicago, Ill., claims the deepest cut at 45° in the 8-in. saw field



for its Maxaw 800 with an 8¼-in. blade.

Depth of cut at 45° is 2¾ in., giving plenty of "blade to spare" on all cuts in 2-in. dimension rough or oversize lumber. Another feature claimed is the elimination of waste weight. The Maxaw 800 weighs only 14 lbs. as compared with other 8-inch field saws weighing up to 18 lbs.

Extra cushion of power for cutting through wet, soggy timbers, transits, concrete, flues, liners and other tough material is available in the Maxaw 800. It is equipped with a telescoping safety guard that rolls on ball bearings for quick, snap-back action.

Fork Trucks

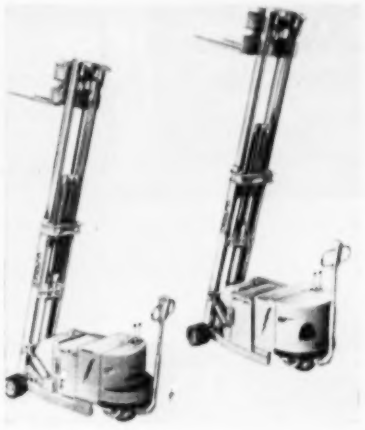
Yale fork lift trucks in capacities from 4,000 to 10,000 pounds are available with either gas or diesel power plants, according to a recent announcement by The Yale & Towne

Manufacturing Co., Dept. WP, Philadelphia Division, Philadelphia 15, Pa.

A recently-concluded design standardization program is said to make it possible to install either type power plant in the same size chassis. This permits wider flexibility in the application of fork lift trucks where operating conditions and available fuel indicate a definite preference for one type or the other.

Tilting Fork Stacker

The latest addition to the Powrworker line of Clark Industrial Trucks is the Telescopic Tilting Fork Stacker in four base capacities of 1500



lbs., 2000 lbs., 2500 lbs., and 3000 lbs., all rated at 24in. center line of load.

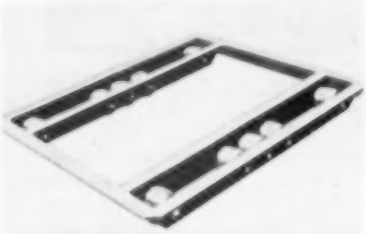
Two standard models are offered in each capacity incorporating the Hi-Lo Stack feature. One has an 83 in. overall height with 64 in. of free lift and 130 in. maximum lift. The

other, especially designed for highway truck loading, has a 68 in. overall height with 49 in. free lift and a maximum lift of 100 in.

These trucks are light in weight, yet compact in overall length and width, providing maximum utility for operation in minimum aisles and over low capacity floors. For detailed information, write to the Clark Equipment Co., Dept. WP, Buchanan, Mich.

Pallet Roller

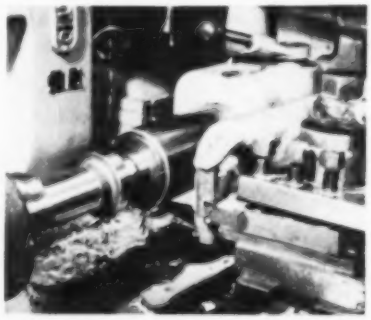
A newly designed and field tested pallet roller has just been announced by the Frank L. Robinson Co., Dept. WP, Latham Square Bldg., Oakland



12, Cal. Known as the Ace "Reefer King", this new pallet roller affords full 360 movement of loaded pallets into or out of a reefer car equipped with slatted decks. It is designed to solve every problem of pallet loading and unloading of refrigerator cars. It is also said to be an asset in many other phases of efficient plant operations where the movement of pallet loads is concerned.

Hone for Carbide Tools

The Chicago Wheel & Mfg. Co., Dept. WP, 1101 W. Monroe St., Chicago, Ill., announces a new hand hone specially developed for on-ma-



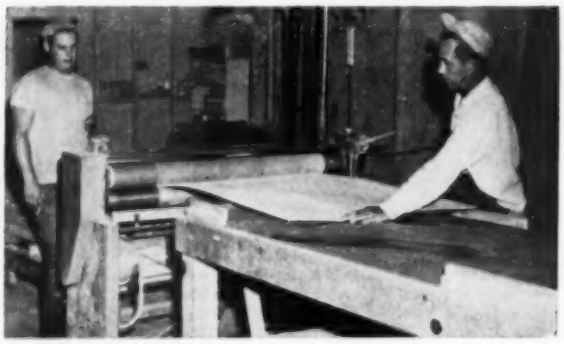
chine sharpening of single-point tungsten carbide tools. Manufacturer claims up to 30% longer "between grinds" tool life results when new hone is used at first signs of tool dullness. User applies a few light strokes over tool edge, taking care to hold hone flat against surface so as not to round cutting edge or change relief angle. Hone quickly touches up tool while mounted on machine, thereby cutting down time formerly needed to remove tool and regrind. When tool eventually loses its original cutting angle, manufacturer recommends a complete regrinding with a Chicago XL Brand grinding wheel.

Battery Separator

An entirely new type of battery separator has just been announced by Evans Products Co., Dept. WP,

NEW

WALCO UNIVERSAL COATER SPREADER



MODERATELY PRICED

New WALCO Coater adaptable to coating plywood, Masonite, hardboard and many other flat surface materials, with adhesives, lacquers, enamels, etc. Many WALCO Coaters in use for flush doors, table tops, blackboards, furniture, etc.

• A precision heavy duty coater available in Model 51-C-1 single coater, and Model 51-D-2 for coating one or both sides, from 18" to 72". Grooved rolls available where required for heavy adhesives.

Write for literature and prices

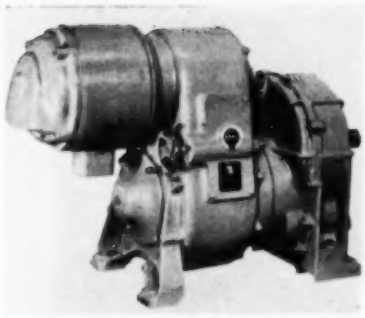
L. R. WALLACE & CO.
440 SEATON ST., LOS ANGELES 13, Calif.

Plymouth, Mich. It is Evanite, an interwoven wood fibre separator which utilizes the known advantages of natural wood as a separator material, but has several additional advantages of its own.

Evanite has undergone a long, pre-announcement testing program. It was first put through extensive laboratory tests. Then it was tested up to 3 years in batteries used in vehicles of all kinds on the road. Finally it was put into use in production runs of batteries. It was only after these laboratory and field tests and actual use that the product was announced. It is now being produced in volume at Evans' Coos Bay, Oregon, plant.

Heavy-Duty Speed Drive

Sterling Electric Motors, Inc., Dept. WP, 5401 Anaheim, Telegraph Road, Los Angeles 22, Cal., offers their new type KFEB double reduction 20 and 25 H.P. Speed-Trols with speed variation of 2:1, 3:1 and 4:1 to answer a growing demand for rugged, self-contained heavy duty electric power drives providing infinite variable speed in the low speed ranges. The 20 H.P. type 364 KFEB



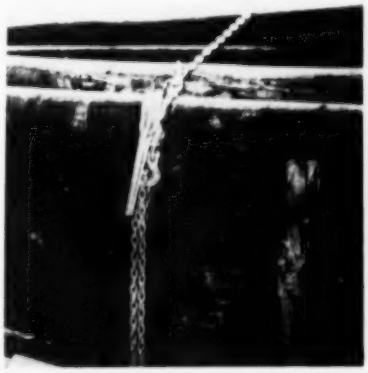
is available with maximum speeds ranging from 176 R.P.M. to 42 R.P.M. and the 25 H.P. type 365 KFEB with maximum speeds ranging from 176 R.P.M. to 64 R.P.M. Efficient power transmission and accurate maintenance of any selected speed are assured by means of Sterling's adjusted variable pitch pulleys.

Sawmill Machinery

The Enterprise Co., Dept. WP, Columbiana, Ohio, has added to its line of sawmill machinery an improved live roll design. The units contain self-aligning ball bearings throughout, machine-cut steel mitre gears, an enclosed gear box and oil bath lubrication. The rollers can be had in different sizes and spacing with 8 in. x 24 in. rolls spaced on four foot centers as standard. As optional equipment welded steel tables can be had for mounting the rollers with one 16-ft section containing a gear motor and roller chain drive. Transfers and board stops are also available.

New Type Loadbinder

After more than a year's rigorous testing and development, a new type loadbinder, invented by Arthur H. Russell of Fort Worth, Texas, has been licensed by the Institute of Inventive



HANCHETT MODEL DN knife grinder

NEW! *fully automatic — low priced*

KNIFE CAPACITY — *32" to 108"*

MODEL DN FEATURES:

1. Timing belt drive. Positive — quiet — non-slipping.
2. Eliminates all gears (Requires no lubrication).
3. Free from vibration and reversal shock.
4. 100% Anti-Friction Bearings.
5. Precision ground ways for accuracy.
6. Guarantees perfect machine alignment.
7. Force feed lubricated ways.

Other models

AK EXTRA HEAVY DUTY

GK HEAVY DUTY

FINEST KNIFE EDGES

Write for complete information

HANCHETT MANUFACTURING COMPANY

World's Largest Manufacturer of Knife Grinding and Saw Sharpening Machinery

MAIN OFFICE — Big Rapids, Michigan WEST COAST — Portland, Oregon

Research. Termed by the licensee, the Texas Foundries of Dept. W, Lufkin, Texas, as "the first basic improvement since loadbinders were invented," the heavy duty device utilizes a novel system of cams to reduce the physical "pull" necessary to bind a load.

A nonprofit scientific organization which develops selected inventions and licenses them to manufacturers and service companies, the Institute has developed, in addition to the loadbinder, such inventions as the Lift Slab Building Method, the Poulter Seismic Method, and other devices and processes. Texas Foundries says that among features of the new loadbinder is the fact it does not slack off when locked tight, and that cheater bars are frequently unnecessary.

Unit for Unloading Pulpwood

Taylor Machine Works, Dept. W, Louisville, Miss., is now introducing to the lumber and pulpwood industry its newest product—the "Pulpwood Yardster". This tool is designed to fill a long-felt need in pulpwood operations. The Pulpwood Yardster has been built to provide pulpwood operators with a compact, mobile and economical tool for unloading pulpwood

from trucks onto railroad cars. It is specifically designed to save the operator manpower, time and money. It is claimed that a standard pulpwood truck can be unloaded and the wood loaded onto a railroad car in about six minutes.

Fire Extinguisher Decals

The Meyercord Co., Dept. WP, 5323 W. Lake St., Chicago 44, Ill., now offers special decal transfer sets for use on various types of fire extinguishers, with larger decals of the same design to help locate the proper extinguisher to be used in case of fires. Each set includes a larger decal, 9 in. by 8 in., that is placed high on the wall or some nearby object above the fire extinguisher so that it is clearly visible for immediate location in case of emergency. The smaller decal in the set, 1¾ in. by 2 in., is a miniature of the larger and is placed immediately on the extinguisher.

Refuse Burner

The C & D patented refuse burner, popular on the West Coast, is now being manufactured in Memphis, Tenn. by Wilco Machine Works, Dept. WP, 1301 N. Hollywood St.

Two advantages of the C & D Burner are known as "Syphon Draft" and "Circular Draft." Syphon draft is created by an opening around the entire barrel about six to 10 feet down from the top. Circular Draft is achieved by scientifically-placed baffle doors near the bottom of the barrel.

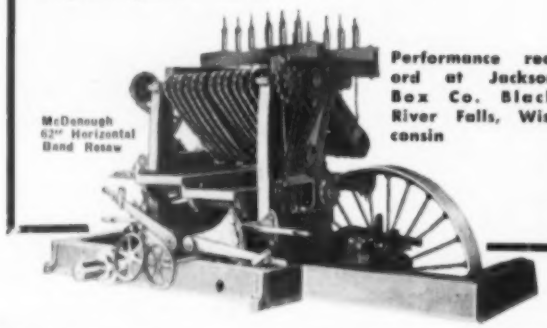
Electric Chain Saw

A new electric chain saw claimed to have enough power and speed to handle the toughest wood cutting jobs, but priced below any saw of comparable capacity now on the

Saws 120,000,000 board feet in . . .

24 years

. . . with only $43.40 average annual repair parts cost.



McDonough 62" Horizontal Band Resaw

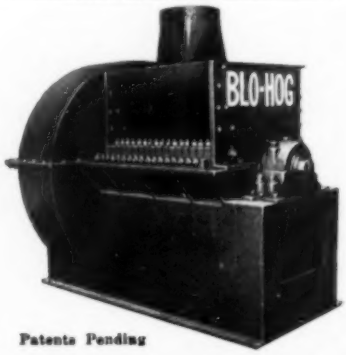
Performance record at Jackson Box Co. Black River Falls, Wisconsin

Mr. Dalby, mill manager, says, "Our McDonough 62" Horizontal Band Resaw easily cuts 25,000 board feet day after day. We get the maximum usable boards out of every log, with a saving in time, because McDonough's split table lets us saw 5/4 and 4/4 boards at the same time." Find out about the features of the McDonough 62" Horizontal Band Resaw that can increase your lumber output and decrease your maintenance costs. Send for Bulletin H-62-1.

World's largest Producer of Band Resaws

McDONOUGH MANUFACTURING CO.

1504 GALLOWAY, EAU CLAIRE, WISCONSIN



Patents Pending

MONTGOMERY BLO-HOG

Eats Up Everything

. . . including Pine, Oak, Gum, Hickory, Elm, Wet Veneer Round-up and Sandy Bark.

Conveyor-fed, no attendant is required to "feed the hog."

Sturdy breaker lugs give absolute protection from major damage caused by tramp steel.

Maintenance costs unbelievably low.

Write for bulletin and details.

Jacksonville Blow Pipe Co.

Jacksonville, Florida

market, has been announced by the Porter-Cable Machine Co., Dept. WP, 12 Exchange St., Syracuse 8, New York. The Model 110 is a one-man saw suitable for topping, notching, and felling large trees, for limbing, flush-cutting or under-cutting main branches, and for bucking.

Wood Office Furniture

Continued from Page 26

niture dealers of the country actually prefer to push wood sales, we have yet to meet the tremendous merchandising and advertising of our metal office furniture competition.

For many years now, the consumer has been besieged by a barrage of national advertising exploiting the merits of non-wood desks and chairs. This advertising has been extended by highly skilled personal salesmanship through the competition's own field offices competing with the office furnitiure dealer.

In the opinion of many, the progress of competition was made by modern merchandising and advertising methods on the sales scene, not on the production front. And there is a lesson here for the entire hardwood industry. It is not sufficient that in your opinion you have the right product. It is also vital that the consumer, household or business, be constantly told of the merits and benefits of your product.

The intrinsic preference for the warmth and beauty of wood has not prevented highly successful competition from a score of substitutes in many fields aside from office furniture. We cannot in this era of growing "robot selling" afford to assume that the product will sell itself. We, in the office furniture field, feel that we have re-established our claim to prior consideration for fine wood products.

plywood

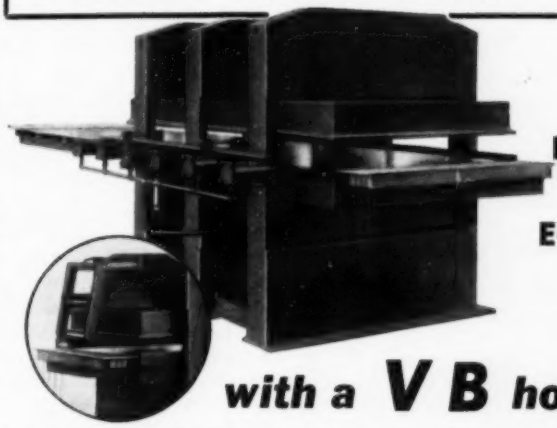
From the world-famous forest resources of Finland, imported all-birch plywood—sizes up to 4' x 6', all thicknesses...cut to buyer's specifications. Also molded plywood chair seats and backs in standard sizes and shapes and to your specification: all-birch 3/4" 13-ply laminates for cabinet doors, table tops, etc.; lumber core for table tops; door panels of birch plywood (1/8" 3-ply).

Dependable deliveries from Finland's oldest plywood source. Quotations submitted —your inquiries invited.

FINWOOD
INDUSTRIES INC.

15 Exchange Place Jersey City 2, N. J.

VENEERED PANELS IN ONE OPERATION!



GET HIGHER PRODUCTION AND ECONOMICAL OPERATION

with a V B hot press

The automatic hydraulic Side and End Pressure Attachment features of the Single (1) and Double (2) Opening "VB" Hot Press enables the user to manufacture veneered panels in one operation. ★

The pressure attachments, as shown in the above photo, are fully automatic and operate in synchronization with the curing cycle. At a touch of the starting button the core stock, crossbands, face and back of the panel are made up and glued into finished panels. This type of manufacturing operation cuts the material costs and speeds up production. ★

Investigate this and the many other advantages of the "VB" Hot Presses for your plant or shop today. ★ ***Write for full details.***

V.B Berthelsen ENGINEERING WORKS, INC.

P. O. BOX 1423 • LOCKPORT ROAD • JOLIET, ILLINOIS

NEW CATALOGS and LITERATURE

Packaged Core Material

A folder has just been published, giving technical and practical information on a packaged cut-to-size core material—Kilndried Belcobalsa. It is prepared by the Balsa Ecuador Lumber Corp., Dept. WP, 500 Fifth Ave., New York 36, N. Y.

The folder gives a description of the production of this core stock, from forests to shipping, and describes how it comes to the users—dressed, trimmed and ripped to specification and ready to be glued. It is claimed that Kilndried Belcobalsa shows definited advantages of warp resistance and considerably reduced weight of finished panels.

Nailing Catalog

A new catalog on nailing machines has just been issued by Auto-Nailer Co., Dept. WP, 267 Marietta St., N. W., Atlanta 3, Ga. It describes a wide variety of wood items that can be quickly and economically nailed with the Auto-Nailer that is manufactured by the company. A copy may be obtained by writing to the above address.

Coated Abrasive Folder

The Mid-West Abrasive Co., Dept. WP, Owosso, Mich., has issued a new folder on Resin Seal Garnet, a new type of coated abrasive for the woodworking industry. This new abrasive is made with medium or heavy weight paper, and all cloth backings and flexibilities in belts, sheets, rolls or discs—or in any other standard form.

Southern Hardwood Guide

The 1953 edition of the Southern Hardwood Buyers' Guide has just been released. It is an up-to-date list of hardwood lumber manufacturers, as well as a handbook of information regarding the hardwoods of the South. Copies are available by writing to Southern Hardwood Producers, Inc., Dept. WP, Sterick Bldg., Memphis 3, Tenn.

Cost Control

The G. M. Diehl Machine Works, Inc., Dept. WP, Wabash, Ind., has just released the winter issue of The Diehlcrafter, the company magazine in which are reports of the significant strides in cost control measures within the industry through equipment modernization. It also discusses the role of wood today in competition with other materials, and the importance of costs, conservation and more intelligent utilization—from the forests to the finished products. Copies are available by writing the company.

Mechanized Logging Booklet

A booklet has been prepared as a general guide to show the equipment needed and procedures to follow when logging medium and small-sized logs under conditions most commonly encountered in logging operations. Entitled "How to Log Small Timber Profitably", it is published by the Hyster Co., Dept. W, 2902 N. E. Clackamas St., Portland 8, Ore., and describes their line of 33 tractor tools and attachments and earthmoving equipment.

Equipment for Lumbering

The General Electric Co., Dept. W, Schenectady 5, N. Y., has issued a new bulletin describing modern electric equipment for the lumber industry. Designated as GER-536, the publication describes the application of G-E apparatus from log pond to storage after milling. It contains information on such equipment as logging locomotives, carriage drives, debarking drives, controls, general-purpose induction motors, power generation and distribution systems, etc.

Knives and Cutterheads

The Wisconsin Knife Works, Dept. WP, Beloit, Wis., announces the release of a new condensed catalog on knives and cutterheads for production woodworking. The catalog gives a graphic picture of the wide variety of standard and special heads, knives and cutters which are manufactured by the company. A portion of the catalog is devoted to data and charts for mill superintendents and foremen. Copies are available for the asking from the company at the above address.

The Care of Gluing Rolls

A new bulletin has just been issued which contains valuable information concerning the care of resilient gluing rolls. The bulletin points out that resilient gluing rolls that are improperly grooved, rolls that are worn down, that have an uneven gouged out surface, rolls that are off center because of worn shaft or journal bearings can mean the difference between a profit or a loss in the over-all picture that reflects production costs.

The advisability of returning all gluing rolls to the factory when reconditioning is necessary, as careful engineering supervision is imperative in the reconditioning process is strongly emphasized by the bulletin. Copies may be obtained by writing to The Black Brothers Co., Inc., Dept. WP, Mendota, Ill.

Gas-Fired Dry Kiln

A booklet, "Some Facts About America's Most Economical Lumber Drying System", explaining the principle of seasoning lumber in a gas-fired kiln, is published by Christopher Unitemp Heating Systems, Inc., Dept. WP, Prescott, Ark.

The literature tells how dry kilns work and compares the heating, humidity and circulation systems of the gas-fired unit with conventional steam kilns. A comparison is also made of operating costs of the direct-heated unit with other kilns. Fuel costs for drying 4/4 Hardwoods (air dried to 25% moisture content) run as low as 25¢ per thousand board feet and as low as 75¢ per thousand for green pine are possible in a direct-heat, gas-fired kilns, the booklet claims.

Post Peeling Machine

A new folder has just been issued illustrating and describing the Hurricane Post Peeling Machine, designed for the smooth peeling of post, short poles, pulpwood and mine props. It is said to be particularly adaptable for fast, low-cost and uniform machining of all bark from every species of soft and hard wood. A copy of the folder and complete information may be had by writing Wood-Treating Chemicals Co., Dept. WP, 5137 Southwest Ave., St. Louis 10, Mo.

Hot Press Booklet

A 16-page booklet, just off the press, contains complete descriptions of Plycor Hydraulic Hot Plate Presses and explains in detail their construction and operation. The booklet is profusely illustrated and includes much interesting and valuable information. A copy may be had by writing Plycor Co., Dept. WP, Division of Earle Hart Woodworking Machine Company, 565 West Washington Blvd., Chicago, Ill.

Smooth Dovetailing

WITH

WYSONG & MILES BITS

For longer life and greater accuracy insist on Wysong Dovetail Bits. Six popular sizes in carbon and high speed steels available from stock.

WYSONG and MILES Co

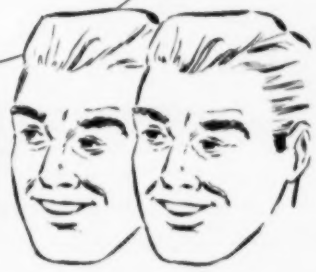
GREENSBORO, NORTH CAROLINA

DOVETAILERS • MORTISERS • SANDERS

4.0*

is

***2×20**



EXPERIENCE comes with age . . . and leaves when age gets too mellow. Forty is just about right. At forty PAMUDO is making progress helping building material dealers make progress. We see great opportunities today to merchandise lumber and lumber products in a market enlivened by competitive materials. PAMUDO supplies a variety of West Coast Lumber and specialties in all sizes and grades.

Fir Plywood and Lumber Products Through Warehouses and Direct Cars from Tacoma

Sales Agents for Hardel Plywood, Olympia, Wash.

Pamudo

PACIFIC MUTUAL DOOR CO.

Direct Shipments

General Office, Tacoma Bldg. • Tacoma 2, Washington

WAREHOUSE STOCKS

Plywood • Doors • Mouldings

Stock Millwork

FROM TACOMA:

Straight and Mixed Cars • Lumber and Lumber Products • Cut Stock • Mouldings

Fir Plywood • Cut-to-size Industrial Plywood

WAREHOUSES IN 5 PRINCIPAL CITIES

• ST. PAUL 4, MINNESOTA • CHICAGO 38, ILLINOIS

• KANSAS CITY 5, KANSAS • BALTIMORE 31, MARYLAND

• ELIZABETH, NEW JERSEY

Wapakoneta Knives

ASSURE HIGH SPEED PRODUCTION

BIG CHIEF

The most dependable knife for general purpose high production work.

KNIFE SPECIALISTS SINCE 1891

MOHAWK

Can withstand hard knots in Southern and similar soft woods.

THE **WAPAKONETA**

MACHINE COMPANY

WAPAKONETA, OHIO

WE SELL THE FIRST *Standard...*
Performance SELLS THE REPEATS!

• The Standard Dry Kiln Company is proud of the many repeat orders it receives. Here are a few of Standard's hundreds of customers whose repeat orders are a sure sign they're completely satisfied with the performance of Standard kilns.

★ **HEYWOOD WAKEFIELD, Gardner, Mass.**
Installed three new Standard kilns at their Conifer plant and then remodeled three existing kilns.

★ **TRUE TEMPER CORPORATION, Cleveland, O.**
Installed a battery of prefabricated type Standard kilns at their Macon, Georgia plant. This makes a total of 12 True Temper Corporation plants that have Standard kilns installed.

★ **MURRAY WOOD HEEL COMPANY, North Walpole, Vt.**
Installed three new Standard kilns and later equipped a fourth.

★ **SOUTH BEND TOY MFG. COMPANY, South Bend, Ind.**
Remodeled one existing kiln and then added a new Standard kiln.

★ **NICHOLS AND STONE, Gardner, Mass.**
Installed one Standard kiln and a year later added another one.

★ **U. S. NAVAL SHIPYARDS, Norfolk, Va.**
Installed two prefabricated type Standard kilns (51 ft.) and recently ordered two additional prefabricated units (60 ft.).

★ **FRED MEARS COMPANY, Erving, Mass.**
Installed two new Standard kilns and remodeled four. Recently installed three multizone type Standard kilns at South Charleston, Ohio.

Write for illustrated Standard Catalog

Manufacturers of Internal Fan Kilns

STANDARD
Engineers and Manufacturers Since 1897
DRY KILN COMPANY

P. O. BOX 5708 • INDIANAPOLIS, INDIANA

PATENT DIGEST

Tree Felling Device

R. P. Ingraham, J. W. Phillips, and S. E. Ganis. U. S. 2,612,194, Sept. 30. Power driven cutting device including a frame for surrounding an object to be cut, a backing blade and an opposed movable blade.

Soybean Glue

A. J. Golick (to Monsanto Chemical Co.). U. S. 2,612,455, Sept. 30. Mixing Soybean glue base with water to stirrable consistency, heating, cooling and adding alkaline reagents.

Sawmill

A. J. Bach, U. S. 2,612,913, Oct. 7. In a sawmill, a frame, a log saw mandrel shaft, a saw on the shaft, a motor, and means connecting said shaft to be driven by said motor.

Safety Device

F. P. Reynolds (to Gresner Machine Co.). U. S. 2,612,914, Oct. 7. Safety device for a woodworking machine.

Splitting Machine

J. G. Bailey. U. S. 2,612,916, Oct. 7. Shake-splitting machine for removing shakes alternatively from the bottom of a stationary block of wood.

Adhesive

C. N. Cone (to United States Plywood Corp.). U. S. 2,613,-167, Oct. 7. Forming a mixture of phenol -aldehyde resin and an aqueous dispersion of an alkali-dispersible cellulose ether.

Log Sawing

G. O. Schneider. U. S. 2,609,-848, Sept. 9. Apparatus for cutting prostrate logs comprising an open frame having a longitudinal bar at each side for engaging the log and sawing means.

Mortis Cutter

A. J. Kronquist. U. S. 2,609,-849, Sept. 9. A manually portable cutting tool having a rotary cutter, a motor, a drive shaft projecting from the housing thereof, all arranged for adjustable mortising.

Wood Wool

W. E. Shotten. U. S. 2,609,-850, Sept. 9. Machine for making wood wool from solid stock including parallel chain stretches, and splitting and shaving tools.

Bowling Pin

W. L. Hunt. U. S. 2,610,057, Sept. 9. Wooden bowling pin covered with hose-like fabric and coated with a thermoplastic film.

The Human Element Counts in

Permawood
HARDWOOD PLYWOOD

It takes skilled people to make quality plywood. While we select the choicest hardwoods, use the finest machinery, and latest methods, it's the human element that counts most in making the better product we call PERMAWOOD Hardwood Plywood.

Dry Veneer is cut to panel widths on this Battery of Clippers, in preparation for splicing and taping.

PERMAWOOD panels are made in Standard Sizes. Thicknesses in All Veneer construction from 3/20" to 1 1/16", and in Lumber Core construction in 3/4" and 13/16". Widths from 30" to 48"; lengths from 36" to 96". Write for latest stock lists and prices.

DARLINGTON VENEER CO., INC.
Established in 1918
DARLINGTON, SOUTH CAROLINA

Costs you less per foot...

AND SAVES THESE 5 OPERATIONS

PACKAGED, CUT-TO-SIZE, KILN DRIED

BELCOBALSA CORE STOCK

comes to you ready to glue—dressed, trimmed and ripped exactly to your specifications. Certified Kiln Dried Belcobalsa Core Stock saves you time, labor, lumber, yet costs you less—saves you money the instant you place your order!

And remember, Belcobalsa Core Stock reduces the weight of your panels because of its extra-light density, makes them warp-proof because of its inertness and stability.

BELCOBALSA CORE STOCK ELIMINATES

HANDLING & SORTING

KILN DRYING

RESAWING

RIPPING

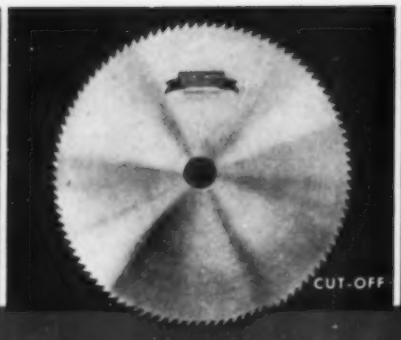
TRIMMING

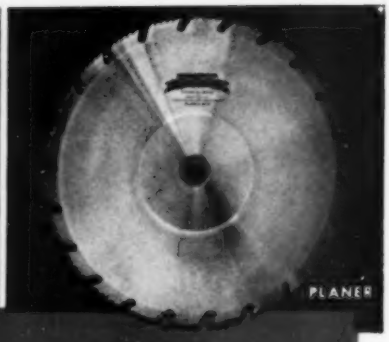
CERTIFIED KILN DRIED
BELCOBALSA

Write for complete information, samples, prices

BALSA ECUADOR LUMBER CORPORATION

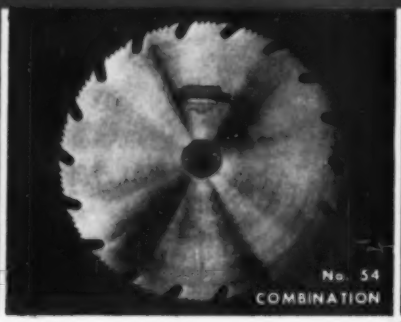
200 Fifth Ave., New York 10, N. Y., Pennsylvania 6-5477

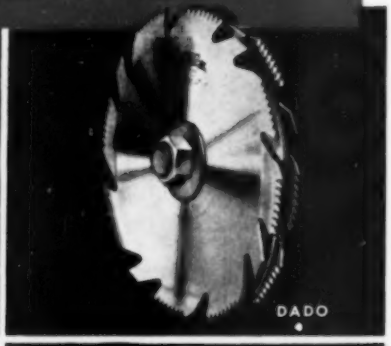




For any Type of Cutting on any Type of Machine...

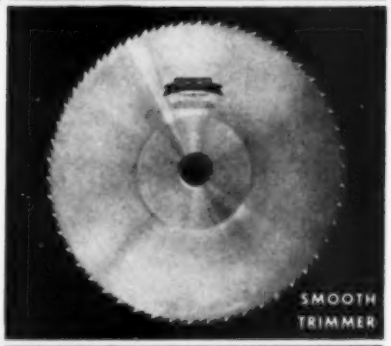
"SIMONDS SAWS ARE THE BEST"





Simonds Saws are 100% Quality Controlled . . . from the tough, edge-holding electric furnace steel poured in Simonds own modern mills . . . to the special methods of heat-treating, grinding, tensioning and fitting by Simonds experienced sawmakers working under ideal conditions in the world's most up-to-date saw-manufacturing plant.

This "start-to-finish" control is your guarantee that every Simonds "Red Center" Saw you buy will cut smooth, fast and straight . . . will stand up to fast feeds . . . and will hold its cutting edge in the hardest woods. Your Simonds dealer is stocked to serve you . . . get in touch with him *today*.

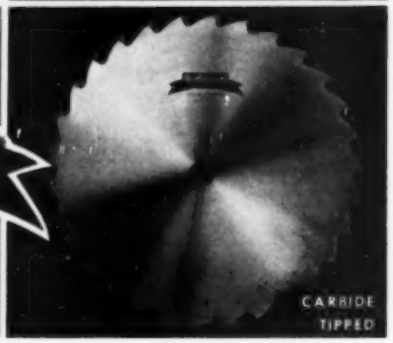


Serving Industry Since 1832

SIMONDS
SAW AND STEEL CO.

FITCHBURG, MASS.

Factory Branches in Boston, Chicago, San Francisco and Portland, Ore. Canadian Factory in Montreal, Que.



NAMES and EVENTS

Butler Appointed Acting Manager of SPMA

The resignation of C. W. "Bill" Dietterich, Managing Director of the Southern Plywood Manufacturers Association for the past five years, was reluctantly accepted at a special meeting of the SPMA Board of Directors held on January 19. Mr. Dietterich is leaving in order to accept the position of Sales Manager for the Darlington Veneer Company, Darlington, S. C.

The Board of Directors appointed John L. Butler, Chief of the Southern Plywood Manufacturers Association Inspection and Testing Department, to serve as acting manager. Mr. Butler will continue to supervise the association's inspection and testing activities and will continue to develope the recently announced Southern Plywood Manufacturers Association program of Certificates of Inspection for Glue Bond Quality. This program is designed to assist those hardwood plywood mills who qualify by giving appropriate recognition to their products. These certificates are for use with invoices and the program is initially organized to cover only those panels bonded for Type II or Interior Type use.

Keran Named President of Western Box Group

F. H. Keran of the Golden West Box Co., Fresno, Cal., has been elected president of the Pacific Division, National Wooden Box Association, which recently concluded its 27th annual membership meeting in San Francisco, Cal. He succeeds G. Cal Setzer of Setzer Forest Products, Inc., Sacramento, retiring president.

High point of the three-day meeting came with the display of nailed containers made under the new Wood-Kraft-Veneer process. This method—called W-K-V for short, utilizes sturdy wood veneer laminated to tough kraft paper for sides, bottom and top, while ends are made of solid wood. Packages utilizing this construction, members were told, already have proven effective for half lemon boxes, where they supply stacking and moisture resistant qualities not found in substitute type containers.

Other new Pacific Division officers are W. C. Witter of American Forest Products Corp., San Francisco, named vice-president; the new treasurer, Ward A. Dwight, Jr., of Dwight Lumber and Box Co., San Francisco; and Jack H. Dobbin, re-elected as division secretary-manager.

Personnel Changes

Charles D. Bonsted has been named to head the New York City news bureau of American Forest Products Industries, Inc., 1816 N. St., N. W., Washington 6, D. C.

Edward A. Mihok, chemical engineer of Trafford, Pa., has joined the research staff of Timber Engineering Co., 1319 Eighteenth St., N. W., Washington 6, D. C.

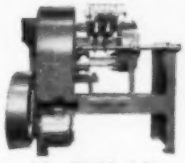
Nort Baser

Nort Baser, a former Michigan newspaperman, has been named midwest manager for American Forest Products Industries. Prior to joining AFPI's field organization Mr. Baser was managing editor of American Forests Magazine. He will take over the present AFPI office at 59 E. Van Buren St., Chicago, Ill., headquarters for a

SPEED UP PRODUCTION
--CUT COSTS with
NASH AUTOMATIC SANDERS

No. 50 Automatic Turning Sander

No. 85 Chair Back Sander



No. 79 Novelty Turning Sander

No. 83 Inner Contour Sander

No. 53, 30-Degree Round Stock Sander

IF IT'S TURNED, A NASH CAN SAND IT

"Standard of the World" since 1890, Nash Sanders lead in sturdy dependability and cost-cutting efficiency. They are designed to do the job right on any type of turning, any type of wood. Whether it is one of the items pictured or something entirely new... there is a Nash for the job.

WRITE for detailed information, and send sample of stock for demonstration. Beaded Turning Sanders, Spool and Bobbin Sanders, and other special machines.

IF IT'S ROUND NASH CAN SAND IT

J. M. NASH COMPANY
2359 N. 30th STREET, MILWAUKEE 10, WISCONSIN

region which includes Illinois, Iowa and Nebraska. JOHN R. CALKINS, former manager, will establish a new office at Green Bay, Wis. to serve Wisconsin, Michigan, Minnesota, North Dakota and South Dakota.

FRANK MCALPINE has been appointed manager of the E. L. Bruce Company operation at Bruce, Miss.

SAMUEL S. AUCHINCLOSS has been elected president of DeWalt, Inc., Lancaster, Pa., a subsidiary of American Machine and Foundry Co. He succeeds Paul Gardner who has resigned. Mr. Auchincloss has served as executive vice-president of DeWalt since August, 1952.

John Silver

JOHN SILVER, formerly general manager of the communications and electronics division of Motorola, Inc., Chicago, Ill., is elevated to the position of vice-president in charge of operations of the division. Mr. Silver joined Motorola in 1944 and was appointed general manager of the division in 1949.

J. C. Kuhn

J. C. KUHN has been appointed vice-president in charge of sales for the Atkins Saw Division of the Borg-Warner Corporation, Indianapolis, Ind., according to an announcement by Stanley J. Roush, divisional president. Mr. Kuhn was formerly vice-president and director of sales of Morse Twist Drill and Machine Co., New Bedford, Mass.

Expansions

OLIN INDUSTRIES, INC. has formed a general research organization, according to an announcement by Dr. Fred Olsen, vice-president for research and development. Laboratories already have been established at New Haven, Conn., and East Alton, Ill., staffed by a total of 45 scientists.

THE GLIDDEN CO., Cleveland, Ohio, has opened a complete new industrial finishes service center and warehouse at Collinsville, Va.

BOISE PAYETTE LUMBER CO. has purchased the entire sawmill properties of Hallack & Howard at Cascade, Idaho.

NASHVILLE MILL & DOOR CO., Nashville, Tenn., is building a $55,000 mill to replace its present operations at Laurel Street and 12th Avenue, South. The new mill will produce doors, kitchen cabinets, etc.

AMERICAN FOREST PRODUCTS INDUSTRIES, INC., announces the removal of its office from 1319 Eighteenth St., N. W., to 1816 N St., N. W., Washington 6, D. C.

Deaths

DR. C. AUDREY RICHARDS, who retired less than a year ago from her career in forest pathology research for the U. S. Department of Agriculture, died January 19th in Madison, Wis. Dr. Richards was for many years one of the nation's outstanding research pathologists.

CARL D. FISCHER, JR., president and general manager of The Wapakoneta Machine Co., Wapakoneta, Ohio, died December 28th following a two-year illness.

JOHN F. SAGE, manager of the E. L. Bruce Company operation at Bruce, Miss., died January 5, after a short illness.

WILLOW

IS FEATURED IN '53

FOR

FURNITURE

CABINETS

PANELING

CASKETS

CORES

Our three mills are located in the Mississippi, Atchafalaya and Red River basins of Louisiana which produce the finest Willow in America.

Large and well assorted stocks of this fine willow are ready for immediate mill shipments at all times. We can meet your exact needs, all thicknesses and grades 4/4" to 8/4" or include in mixed cars with Port Barre white ash and other Southern Hardwoods. Prompt attention will be given to all inquiries.

The Port Barre Lumber Industries, Inc.

Manufacturers of Southern Hardwoods
Port Barre, La.

NOW . . . AN IDEAL CABINET CASTER & BRACKET

Write For Complete Details!

COMPLETE WITH EASILY INSTALLED BRACKET

This caster is ideal for Television, Radio or any other type of cabinet where mobility is necessary or desirable.

It is complete with a sturdy, easily installed bracket that requires only 4 screws for installation and adds strength to the cabinet.

Fitting into the inside corner it is practically invisible when installed. The caster swivels easily because it bears on the point of the stem instead of the shoulders as ordinary casters do.

Write today for complete details including prices on any quantity!

NAGEL-CHASE MANUFACTURING CO.

2819 No. Ashland Ave., Chicago 13, Ill.

R-273

One set of Solid Firthite Matcher Knives surfaced over 50,000 feet of flight deck Teakwood on all four sides for a recent aircraft carrier. This operation was completed without REMOVAL for SHARPENING. Such unprecedented production is definite proof of the efficient and economical value of solid Firthite Straight Knives.

Firthite Knives also hold the record of surfacing more than ONE MILLION lineal feet of oak flooring without sharpening or jointing.

You, too, can get the same production economy as these woodworking manufacturers who have recognized the high extra dollar value of such highly productive tools. Contact your established woodworking tool maker for Standard Firthite Style SK and KB stock knife blanks

Use Solid Firthite Straight Knives on Molders, Matcher, Jointers, and Glue Jointers. Order them today . . .

FIRTH STERLING FINE STEEL

Firth Sterling INC.

OFFICES* AND WAREHOUSES: HARTFORD NEW YORK* DETROIT CLEVELAND DAYTON* PITTSBURGH* CHICAGO BIRMINGHAM* LOS ANGELES PHILADELPHIA*

GENERAL OFFICES: 3113 FORBES ST., PITTSBURGH 30, PA.

ACCESS ROADS

Continued from Page 28

used only by an occasional fisherman and a mail man who makes three trips a week over part of it. It is not part of a road system, for it ends at a railroad spur. Its highway connections are a road six miles long in one direction and one 12 miles long in the other direction which are little more than cow trails.

Despite all this, the Forest Service insisted that a portion of the road across a flat be rebuilt along side an existing serviceable road.

Engineers of the company which built the road figured that about $40,000 more was spent on it than was necessary to make it a good road for the job to be done. Since road costs are repaid from stumpage, the federal treasury lost $30,000 and a local county burdened with a big chunk of non-taxpaying federal land lost $10,000.

Nothing serves better to illustrate another angle of the need for a continuing main access road program than the current Engelmann spruce beetle infestation theatening the fine spruce stands of northern Idaho and western Montana.

The attack came suddenly. It was not discovered until late in the summer of 1952. Detection and appraisal surveys were hastily organized by the Forest Service under technical direction of the Bureau of Entomology. Representatives of federal agencies and industry organized a "task force" and were appalled at initial revelations.

An estimated one billion of some nine billion feet of spruce already had been attacked. There was no known direct chemical control. There was unanimity of agreement that the only practical thing which could be done was to log immediately as many infested trees as possible. The beetles and their young would then be drowned in millponds or burned in slab fires, and the further spread of that many halted.

But how are you going to log trees when there are no access roads to them, and no money with which to build roads? It goes without saying that, had this nation had a sound, continuing access road program over a period of years, logging would be possible now in a number of the infested drainages.

As a Bureau of Entomology official remarked: "It's foolish to even talk about good forest management until you've got roads into the forests so you can manage them!"

Two steps have been taken to meet the beetle threat. The Forest Service has assembled preliminary estimates of the extent of the infestation for presentation to the Bureau of the Budget, which in turn will ask Congress for emergency appropriations for roads. In one sense, this is locking the barn door after the horse is stolen. It nevertheless represents something that has to be done in an all-out effort to save a valuable natural resource.

A second step is that private industry, able to move more quickly than government agencies, marshalled its forces for a frontal attack on the infested timber and the beetles. It began building its own roads, where practicable, and accelerating logging of the ravaged trees.

At one meeting an official of a lumber company which shared ownership of a spruce drainage with the public said that his firm could shut down all its logging elsewhere the following day and concentrate on logging spruce and building roads if the Forest Service would give the go-ahead.

That the Forest Service couldn't do,

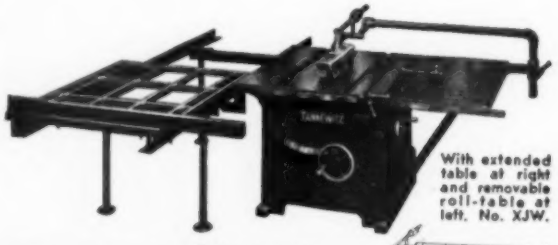
turn scrap into profit with

M&M HOGGING EQUIPMENT

Utilize every bit of scrap by turning it into extra dollars with M & M hogging equipment. M & M machines are built in many types and sizes for slabs, edgings, trim, blocks, veneer, bark, and other combustible waste. Send us your scrap problem and we'll show you how M & M hogging equipment can solve it.

MITTS & MERRILL

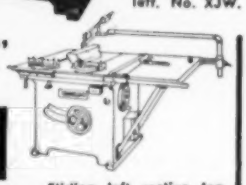
1018 South Water • SAGINAW, MICHIGAN 69



With extended table at right and removable roll-table at left. No. XJW.

Tannewitz "XJ"

FINEST THING IN MITRE SAWS!



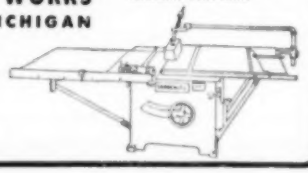
Sliding left section top and extended table at right. No. XJSW.

Choice of 5 different tables enables you to obtain a mitre saw that matches EXACTLY your production requirements. Does away with awkward working conditions, steps up production, and saves time and money. Nothing like it. Moderately priced. Write for Bulletin XJ.

Standard solid table, (No. XJ) or sliding left section, No. XJS.

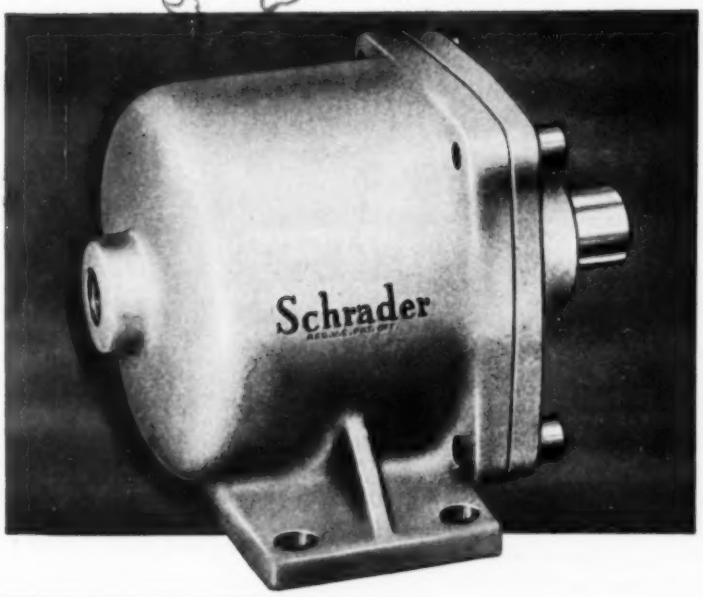
THE TANNEWITZ WORKS

GRAND RAPIDS, MICHIGAN



Extended table at right — extended sliding table at left. No. XJSW — J-430.

clamp down on production problems



Let Schrader ClampAir apply high production techniques to your woodworking problems. In veneering . . . band edging . . . most gluing or other joining . . . or *any* holding operation . . . use the new ClampAir singly or in batteries to perform holding miracles.

For Schrader's ClampAir gives you speed and convenience for clamping such as you've never seen before. The ClampAir – actually a bantam but husky push-type air cylinder – gives you – *instantly* – any gripping force you want. Holding pressure is *steady* – never relaxes, yet can be applied or released in nothing flat.

Just think how your production can be speeded up, when your workers no longer have to fuss with mechanical clamps . . . tightening here . . . loosening there. They'll do minutes' work in *seconds* with ClampAir.

Check with Schrader for full details on how ClampAir can make any holding operation a pleasure. Write, outlining the processes you use where ClampAir's fast, effective holding power will help – or fill out the coupon below.

Schrader
REG. U. S. PAT. OFF.

products
control the air

Air Cylinders • Operating Valves • Press & Shear Controls • Air Ejection Sets • Blow Guns • Air Line Couplers • Air Hose & Fittings • Hose Reels • Pressure Regulators & Oilers • Air Strainers • Hydraulic Gauges • Uniflare Tube Fittings

Mail This Coupon Today

A. SCHRADER'S SON
Division of Scovill Manufacturing Company, Incorporated
480 Vanderbilt Avenue, Brooklyn 38, N. Y., Dept. Y-13

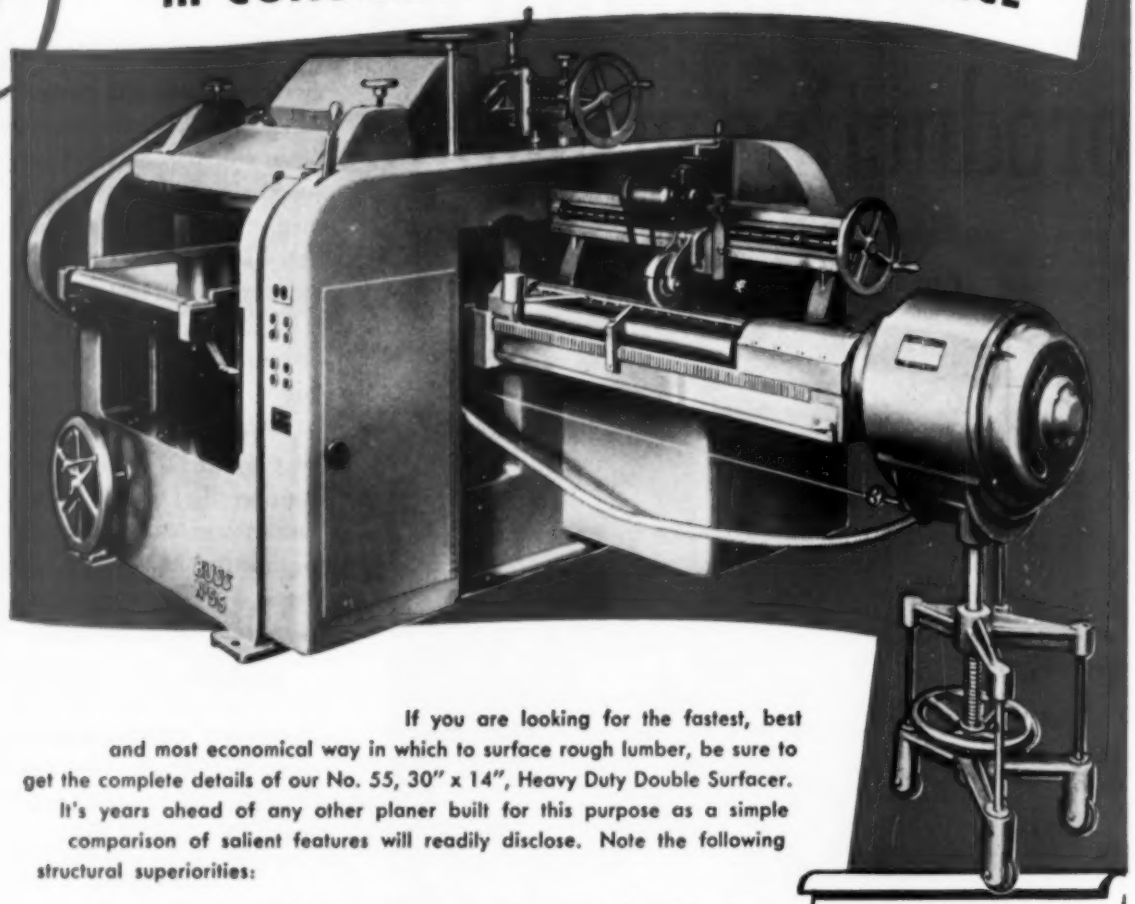
I am interested in more information on_____

Name_____ Title_____

Company_____

Address_____

for DOUBLE SURFACING ROUGH LUMBER the BUSS No. 55 is YEARS AHEAD in CONSTRUCTION and PERFORMANCE



If you are looking for the fastest, best and most economical way in which to surface rough lumber, be sure to get the complete details of our No. 55, 30" x 14", Heavy Duty Double Surfacer. It's years ahead of any other planer built for this purpose as a simple comparison of salient features will readily disclose. Note the following structural superiorities:

1. Variable feed — from 30 to 175 ft. per minute. 2. Chromium plated beds and bars — for longer wear. 3. Heavy built-in grinders and jointers. 4. Anti-friction ball and roller bearings throughout. 5. Sectional feed roll and chipbreaker. 6. Large diameter cutterheads with high-speed TUNGSTEN knives for longer wear and smoother finish. 7. Completely motorized with push-button control. 8. Shearing Bar to prevent damage from loose knots. 9. ONE-SHOT lubrication for smooth running and insurance against neglected parts. Write for complete description. Ask for bulletin 55.

FLOORING MILLS and KINDRED PLANTS

No. 55 is also available in 20-inch width with speed stepped up to 275 ft. per minute. This model has proved itself a "bear-cat" for Flooring Mills and similar operations. Let us tell you about it.

BUSS
SINCE 1862
MACHINE WORKS

PLANER SPECIALISTS EXCLUSIVELY

244 EIGHTH STREET
HOLLAND, MICHIGAN

for there is a mountain of red tape connected with road building plans and preparation of a timber sale. Even the advertising period for sale of public-owned timber can be reduced only from 30 days to 10 days in time of emergency!

It might be pointed out here that the Kaniksu forest has recently issued a statement proposing the construction of 354 miles of spruce access roads in 1953 and 1954 at an average cost of $21,000 a mile. Yet the privately engineered and constructed roads discussed in this article involve an average cost of only $8,525 a mile. Considering that terrain and other features are always roughly comparable, the spread is just too great.

In the case of the spruce beetle infestation, appraisal surveys did not cover entire forests. They were confined to areas where there was some likely possibility of early access road construction. One of these was Snow Creek in Boundary County, Idaho, a drainage containing a stand of virgin timber, much of it over-ripe. As elsewhere, the spruce is at the higher elevations at the upper end of the drainage.

The access road situation at Snow Creek was somewhat simplified by two factors. One was that only two ownerships were involved—the public and a single company. The private firm three years ago had constructed an eight-mile "jeep trail" into the drainage for cruising and fire protection purposes.

It was decided that heavy equipment could get over this trail to begin construction at higher altitudes where winter weather would force the first work stoppage. On the basis of years of forest road building experience, the firm knew that if it could get the main road into the drainage in the fall of 1952, logging of infested timber would be possible in the summer of 1953.

It therefore assembled a large array of bulldozers, patrols and other equipment and, with an assist from Mother Nature in the form of a dry fall, performed the spectacular job of building 12 miles of main access road in a short time at a cost of about $90,000. That's $7,500 a mile for high standard construction. Only some graveling and minor re-working remains to be done in the spring of 1953 before the big trucks with their loads of spruce logs can begin rolling toward the sawmills.

Is connection with its Snow-Creek jeep trail, the private firm had laid out a road location on the hillside with a fairly steady grade so that loaded trucks coming out of the drainage would not have to climb adverse grades. The Forest Service had laid out a road near the canyon bottom, requiring dips and up-and-downs to avoid mudholes, etc. It would have been a costly road from the standpoint of truck wear asd tear. The Forest Service finally agreed to the company's location.

The sad thing is that for each access road, such as that into Snow-Creek, which can be constructed, there are dozens and dozens of others where bugs will continue to wreak havoc and over-mature trees will deteriorate and be lost to the nation's economy for lack of a road program.

Snow Creek is a classic example of why main access roads are a good investment for the people, and it points up the fact that access road appropriations represent one of the few federal outlays which are repaid immediately with dividends many times over.

The merchantable timber of all species in Snow Creek is enough to build 7,500 houses and is worth a million dollars on the stump. It is made accessible by a road costing only $90,000. If that cost had been advanced by the federal government, it would have been repaid as stumpage was sold, and the rest of the cash return would go to the public—75% to the federal treasury and 25% to local

Test these IMPROVED GLOVES for your woodworking operations

Here are 3 newly improved types, by the largest maker of coated-fabric work gloves. Wear 5 to 10 times longer than ordinary work gloves, and are safer. We will gladly recommend and supply free test samples of gloves best fitted to your operations.

Improved NEOX: More flexible and better gripping than the original NEOX (reinforced neoprene). Much tougher and more resistant to solvents and other chemicals than ordinary neoprene coated gloves. Many styles.

Rough Finished Natural Rubber: Ideal for handling lumber, also all slippery materials, wet or dry. Very cut-resistant. Over-all or palm coated.

Hand-Fitting Non-Slip Plastic: Shaped to the hand with wing thumb and pre-flexed fingers. DUROX (reinforced plastic) far outwears leather and other plastics. Fully or palm coated.

Free Test Offer: Employers, send brief description of your operation. We will supply test samples of the most suitable glove, no charge.

Edmont JOB-FITTED GLOVES

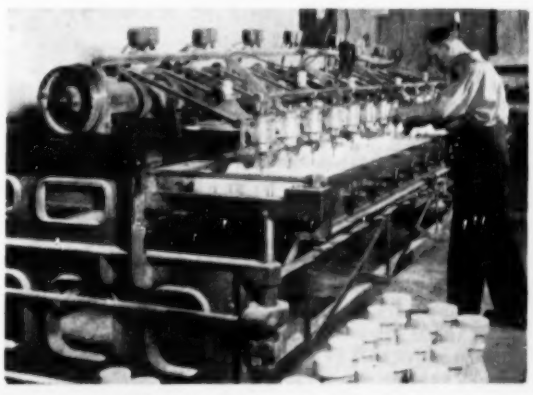
EDMONT MFG. COMPANY
1268 Walnut Street, Coshocton, Ohio

Carve 4 to 32 pieces at one time on

"OLIVER"

Multiple Spindle Carving Machines

● "Oliver" Carving Machines handle flat, round and odd shaped pieces, duplicating the master carving exactly. Cuts half rights and half lefts, if desired. Quickly set up from the front. Carriage main beams and table beams remain perfectly straight. Tandem type spindle heads—one housing for two ball bearing spindles, with power to maintain high speeds under extra heavy cuts. Write for illustrated Bulletin No. 308.



OLIVER MACHINERY COMPANY, GRAND RAPIDS 2, MICH.

counties as a payment in lieu of taxes. This is important, because Uncle Sam owns more than half the land in the 11 western states! (See Page 29, WOOD & WOOD PRODUCTS, February, 1953.)

That alone is good business. But the economics go even further. Consider just the spruce alone. It represents enough lumber to build 3,000 homes. To local communities, it means the equivalent of $2,000,000 in direct and indirect payrolls. Loaded on railroad cars, it would have a current wholesale value of more than $3,000,000 and the railroads would get about $750,000 in freight charges for hauling it to the Midwest.

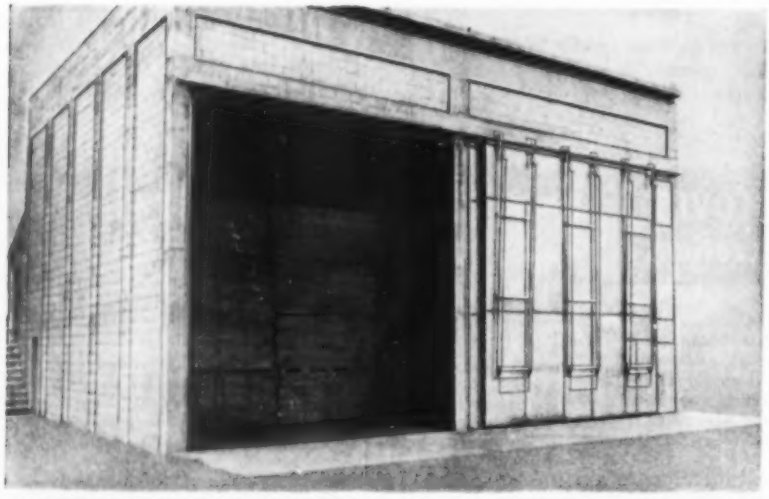
Go to one drainage after another all over the West and the story is the same. Get access roads built and you have taken a first step toward good forest management. Over ripe trees can be harvested to make way for new crops, and to repay road costs. There will be better insect control and fire prevention. New areas will be opened for the enjoyment of the growing army of people who like to be out of doors.

A WOOD Trading Post Ad will find Men—Materials—Machinery (See Page 76)

NORTH COAST

"DIRECT-FLO"

DRY KILN



REVERSIBLE CIRCULATION • UNIFORM DRYING

NEW KILNS

KILN MODERNIZATION • KILN ACCESSORIES

The North Coast Dry Kiln is the most efficient kiln in operation today. The Fans are positioned at the sides of the lumber loads so that the air follows the shortest possible "DIRECT-FLO" path. This insures uniform efficient drying with lowest possible power consumption.

We manufacture Kilns to your Specifications. Write Dept. WK-1, for Dry Kiln Catalog 366.

OFFICES AND WAREHOUSES IN
SAN FRANCISCO, CALIFORNIA
LOS ANGELES, CALIFORNIA
HONOLULU, HAWAII - MANILA, R. P.
VANCOUVER, BRITISH COLUMBIA

C. M. LOVSTED & CO., INC.
ENGINEERS AND MANUFACTURERS
4000 W. MARGINAL WAY · SEATTLE 6, WASH.
PHONE AValon 4000
CABLE ADDRESS LOVSTED

Moisture Content

Continued from Page 32

10% moisture content must be considered the equivalent of approximately 15% moisture content in poplar, in order to release the same amount of moisture for the inital softening of the dried resin on the film as a preliminary to its subsequent cure under heat.

Q. 49. What is the range of initial moisture content in wood at which good gluing can be expected?

A. 49 This is a pretty broad question and requires a modified answer. In solid wood joints, excluding plywood, good gluing with animal glue is possible from about 5% to 12% moisture content; with resin adhesives, such as ureas and resorcinols, between 7% and about 15% moisture content.

These upper moisture content ranges suggest air-dried rather than kiln-dried wood. In both cases there is an important consideration—substantial shrinkage adjacent to the glue joint in subsequent service does not impose serious stresses, on any of the joints, which might cause weakening or breaking. Several illustrations are given in Fig. 1.

In the case of the mitered frame joint in A, the shrinking of the meeting members in width will tend to open the joint as in AA, putting the glue of an end wood joint in pure tension, a direction in which any glue has the least strength.

Take the case of the lower left hand sketch, with an end strip or band. Shrinkage in the end band itself will be of no consequence. However, shrinkage in the parallel strips will inevitably weaken and probably break in the joint at B. If this does not occur, joints marked C, D or E may open or a split may develop in one of the inner parallel strips.

The construction in the lower right sketch is different, and the trouble is likely to develop in either of the two central strips, F-G or G-H, or between them at G.

Where considerable shrinkage can be anticipated, the wood to be glued should not have a moisture content above about 8%.

Q. 50. What moisture content is preferable for hot press gluing in plywood?

A. 50. As a general rule, 5% moisture content in all layers will give good results. When using Tego film

glue, the crossband usually requires about 10% to supply enough initial moisture to soften the glue. Fragile face veneers should test above 5% moisture content when they are laid up, to avoid any hazard of face checking under heat.

Too much moisture in any layer may develop steam pockets, especially when using platen temperatures of 275° F. and up with phenolic resin adhesives.

Q. 51. If crossbands should contain 10% moisture content for Tego gluing, in hot presses, what is the best way to condition them?

A. 51. Experience has shown that attempts to dry down to a uniform 10% moisture content are rather unreliable, and also that veneer of 10% moisture content standing around a factory for a few days is likely to dry to a lower percentage. The best results have been obtained by initially drying down to 5% moisture content, in the usual way, and then remoistening the veneers a few hours ahead of their use.

This wetting process is relatively simple. It requires a belt traveling under a water spray, as illustrated in Fig. 2. By regulating the nozzle and varying the belt speed any desired results can be obtained. Only one side is sprayed, and the pile is allowed to stand for a couple of hours before use. The moisture will then be well diffused through the entire pile. Ends and edges should be covered if such a moistened pile has to be carried over from one day to the next.

Q. 52. What effect does climate have on glued joints?

A. 52. That is a broad question with many ramifications. In the case of timbers exposed to weather, only resorcinol resin adhesives should be used and the structures kept well painted or, better yet, preservatively treated. The same would be true of laundries, leather tanneries or dye rooms, where high temperatures and humidities are normal. For semi-protected locations, casein glues might be a satisfactory alternate.

Most woodworkers, however, will be more interested in the effect of climate on items fabricated of wood, such as furniture, cabinets, doors, woodwork, interior trim, etc., which are used in homes, offices, factories and public buildings. A Forest Products Laboratory survey was made on the subject in June, 1950, with particular reference to home equipment throughout the year, usually resulting in peak conditions in January or July. A few typical areas are shown in Table B. It should be kept in mind that all figures shown are averages, and that maximum and minimum conditions might well be 25% to 33% lower or higher.

One way to meet this perplexing situation is to manufacture such home equipment, as far as it is practicable, to meet the mean climatic condition at point of use. In general, high humidities are more hazardous for glue joints than low humidities, and wide ranges of moisture content are even worse.

To avoid weakened or delaminated glue joints under such conditions, it is a good rule to use urea resin adhesives, with a moderate ratio of extenders, which are sufficiently moisture resistant to withstand the worst climatic conditions in any of the areas listed.

HAVE GLUING PROBLEMS?

Readers are invited to submit their shop problems on gluing and related subjects for discussion in future articles. Sound, practical comments on answers published here also will be welcomed.—The Editors.

Q. 53. Are moisture meters reliable?

A. 53. The answer is definitely yes

CALIFORNIA REDWOOD

...boon to woodworkers!

TO IMPROVE their products and cut operating costs, more and more woodworking manufacturers are turning to California Redwood, the wonder-wood of industry.

LAMINATED TABLE, electronically glued, shows Redwood's beauty of color and glue-holding power. Economy, too, for table-top is made entirely of shop grade Redwood!

GARAGE DOOR employs to advantage Redwood's attractive appearance, light weight, insulating value, ability to hold finish and resistance to weathering.

Redwood's unique combination of grown-in properties—durability, workability, insulating value, paint retention, strength, light weight, glue-holding power—enable it to do more jobs better than any other wood.

Three such jobs are illustrated on this page. Perhaps Redwood can help you do *your* job better, too. For specific information, write the California Redwood Association, 576 Sacramento Street, San Francisco 11, California.

SUGAR CART PLANTER, sold as an authentic scale model kit, shows what the small novelty manufacturer can do with shop-grade Redwood.

The Association, a clearing house of Redwood data, is maintained by thirteen leading Redwood Mills: Northern Redwood Lumber Co., Pacific Lumber Co., Rockport Redwood Co., Simpson Logging Co., Union Lumber Co., Warm Springs Redwood Co., Willits Redwood Products Co., Wolf Creek Timber Co., Inc., Arcata Redwood Co., Coastal Plywood & Timber Co., Eureka Redwood Lumber Co., Hammond Lumber Co., Holmes Eureka Lumber Co.

when these devices are properly designed and used. They are undoubtedly more useful in detecting high moisture boards than those with low moisture content. A hundred tests can be made with a moisture meter in less time than it takes for one oven test, and many woodworking difficulties can be avoided by the more extensive testing programs that moisture meters make possible.

Moisture meters may not have the ultimate accuracy of the well-established oven test, but they have encouraged wider testing techniques than ever existed before and are definitely an asset to any woodworking shop.

Q. 34. Is air conditioning necessary in a woodworking plant?

A. 34. This is another question that requires answers with modifications. There is no doubt that air conditioning will improve both manufacturing processes and human comfort in a woodworking plant. Establishing equilibrium moisture content standards in a factory will insure a better product of more uniform quality.

If the cost of air conditioning the entire factory is beyond reasonable range, a start can be made with installations in the machine and glue rooms, where the moisture content of wood is of paramount importance. It is a reasonably safe prediction that the advantages demonstrated by such a partial installation will eventually lead to the complete air conditioning of the entire factory.

WOOD WASTE REPORT
Continued from Page 34

mising fields for expansion of the use of treated lumber, but some means must be devised for making it more readily available at local lumber yards. Use of standard specifications was seen as a means of reducing the cost of treated timber.

Members of Task Group

The Task Group on Wood Waste was headed by Edmund A. Pratt, DPA Conservation Division, as chairman, and included the following members:

James W. Follin, DPA Conservation Division; J. Hugo Kraemer, NPA Lumber & Wood Products Division; William A. Macfarlane, U. K. Scientific Mission; J. Marshall Mayes, NPA Building Materials Division; A. G. Natwick, NPA Pulp, Paper & Paperboard Division; George Olson, Munitions Board, and George W. Trayer, Forest Products Division, Department of Agriculture.

DIMENSION STOCK

ROUGH • SOLID • GLUED UP • SEMI-FINISHED AND FINISHED

MAPLE BIRCH BEECH

Kiln Dried Dimension Stock
Plain S2S—Machined—Turned
Solid and Glued Up

MICHIGAN DIMENSION CO.

General Office: 666 Lake Shore Drive, Chicago 11, Illinois
Factory: Manistique, Michigan

Dimension and Lumber for Every Need
AD or KD Hardwood or Softwood
100% CLEAR OUR SPECIALTY

Milpac-Bed Rails-core stock-furniture parts & squares
Hickory and Ash tool handle blanks, handles and dowels.

Germain Lumber Corporation
MONTGOMERY 1, ALA.
Phones: 4-2481 * 4-2482 * 4-2483
After 5 P.M. (CST): 2-1410 or 2-2568

LUMBER CORES
and
Glued-up Furniture Dimension
Precision kiln-drying and machining
Specializing in Gum and Poplar
Other species avaliable

THE PILLIOD LUMBER PRODUCTS CO.
FLORA, MISSISSIPPI

Carlton Smith Industries

Glued-Up Furniture Dimension

P. O. Box 326 Phone 23

Bearden, Arkansas

Angelina Hardwood Sales Co.

P. O. Box 1020
Lufkin, Texas

Manufacturers of: Furniture & Industrial Hardwood Dimension stock—SOLID or GLUED, Rough or Semi-finish—S2S, S4S or to pattern, moulded, mitred, tenoned or square trimmed ends.

ALL ORDERS CAREFULLY MANUFACTURED TO YOUR SPECIFICATIONS

Sitka Spruce Douglas Fir **PONDEROSA PINE** Western Hemlock Engelmann Spruce

Direct Mill Shipments — Car Loads

Western Lumber & Lumber Specialties

Mouldings — Cut Sash & Door Stock — Box Shook
Glued Panels — Industrial Cut Stock
Venetian Blind Stock — Ladder Stock — Toy Stock

SOMERVILLE-McGINN LUMBER CO.

ANdover 3-4636
308 W. Washington St. Chicago 6, Ill.

FOREIGN WOODS

Continued from Page 46

LOGWOOD

—Haematoxylon campechianum Leguminosae (Pea) family

Before the days of synthetic dyes LOGWOOD was a very important item of commerce. It also played a very important role in the settlement and early history of British Honduras. The LOGWOOD cutters first came to the mainland from Jamacia and before long they discovered that Mahogany grew in that region. By the end of the 18th Century Honduras Mahogany had largely supplanted West Indian Mahogany in the English markets.

At first LOGWOOD did not have a good name in England because dyers lacked the knowledge to make the color permanent. The wood was banned by the government but bootlegged under the names of Camreachy and Peachwood from Campeche, Mexico. Later, methods were developed to make LOGWOOD dyes as durable as others.

LOGWOOD trees are small and bushy with channeled trunks. Only the heartwood is used, the thin white sapwood being hewn off in the forest.

Don B. Wallace, Inc.

Guardian Building, Detroit
WOodward 3-0862

★

WHOLESALE PACIFIC COAST LUMBER

★

Specialists in

California Redwood
•
Overhead Door Stock
•
Ladder Rails
•
Sitka Spruce
•
Ponderosa Shop & Uppers
•
Western Red Cedar
•
Upland Hemlock
•
Douglas Fir Clears

MANUFACTURERS OF
WOOD TURNINGS

AUTOMATIC LATHE

Chippewa Wood Products Co.
Rudyard, Mich.

Henry V. DeGalan Co.
Sales Office
1105 Beaufait St.
Detroit 7, Mich.

Grand Rapids Dowel Works
701 W. Burton St.
Grand Rapids, Mich.

H. G. Winter & Son
Kingfield, Me.

•

DOWEL RODS & PINS

C. B. Cummings & Sons Co.
Norway, Me.

Henry V. DeGalan Co.
Sales Office
1105 Beaufait St.
Detroit 7, Mich.

Grand Rapids Dowel Works
701 W. Burton St.
Grand Rapids, Mich.

E. Henning, Inc.
431 S. Dearborn St.
Chicago 5, Ill.

Charles D. Roberts Co.
Greensboro, N. C.

J. A. Thurston Co., Inc.
(Mfgrs.)
P. O. Box 478
Bethel, Me.

•

EXTERIOR LAMP POSTS

A. F. Schwerd Mfg. Co.
3215 McClure Ave.
Pittsburgh 12, Pa.

•

FURNITURE & CHAIR PARTS

The Evans Co.
Canton, Miss.

•

HANDLES

AUTOMATIC LATHE

Allen-Rogers Corp.
Laconia, N. H.

Bass Whipple Mfg. Co.
Fourth Ave. & South St.
Union City, Pa.

C. B. Cummings & Sons Co.
Norway, Me.

Henry V. DeGalan Co.
Sales Office
1105 Beaufait St.
Detroit 7, Mich.

Charles D. RoLerts Co.
Greensboro, N. C.

The Stratton Co.
100 Main St.
Stratton, Me.

H. G. Winter & Son
Kingfield, Me.

KNOBS—WOOD

Allen-Rogers Corp.
Laconia, N. H.

Henry V. DeGalan Co.
Sales Office
1105 Beaufait St.
Detroit 7, Mich.

H. G. Winter & Son
Kingfield, Me.

•

MOULDINGS—CARVED TURNED & EMBOSSED

Forsyth Mfg. Co.
2246 W. Kinzie
Chicago 12, Ill.

•

ORNAMENTAL TURNINGS

Henry V. DeGalan Co.
Sales Office
1105 Beaufait St.
Detroit 7, Mich.

•

SPECIAL TURNINGS

Henry V. DeGalan Co.
Sales Office
1105 Beaufait St.
Detroit 7, Mich.

H. G. Winter & Son
Kingfield, Me.

•

SOLID OR LAMINATED

Monumental Manufacturing Corp.
Hanover, Pa.

•

TOY PARTS (Turned & Shaped)

Bogert & Hopper, Inc.
101 W. 31st St.
New York 1, N. Y

C. B. Cummings & Sons Co.
Norway, Me.

Henry V. DeGalan Co.
Sales Office
1105 Beaufait St.
Detroit 7, Mich.

E. Henning, Inc.
431 S. Dearborn St.
Chicago 5, Ill.

H. G. Winter & Son
Kingfield, Me.

TURNINGS—GENERAL

Allen-Rogers Corp.
Laconia, N. H.

Crane & MacMahon, Inc.
St. Marys, Ohio

Henry V. DeGalan Co.
Sales Office
1105 Beaufait St.
Detroit 7, Mich.

Frary Wood Turning Co., Inc.
Wilton, Me.

The Harrison Co.
260 Broadway
Brooklyn 11, N. Y.

Levenson Woodturning & Mfg. Co.
3755 S. Broadway Place
Los Angeles 7, Calif.

G. F. Mooney & Son, Inc.
66 S. Main St.
Farmington, N. H.

The Stratton Co.
100 Main St.
Stratton, Me.

H. G. Winter & Son
Kingfield, Me.

•

WOOD PARTS TO ORDER

Bennett Lumber & Mfg. Co.
Zeeland, Mich.

Chris-Wood Products Co.
Kingsville, Ohio

Curry Wood Products
260 W. Broadway
New York, N. Y.

Grand Rapids Dowel Works
701 W. Burton St.
Grand Rapids, Mich.

The Woodcraft Corp.
Bay City, Mich.

•

WOOD PORCH COLUMNS

A. F. Schwerd Mfg. Co.
3215 McClure Ave.
Pittsburgh 12, Pa.

•

WOOD SPOOLS & REELS

North Waterford Spool Co.
North Waterford, Me.

H. G. Winter & Son
Kingfield, Me.

If you manufacture Wood Turnings your firm name should be listed on this page. The cost is nominal. For further information write today: WOOD AND WOOD PRODUCTS, 139 N. Clark, Chicago 2, Ill.

TRADING POST

Trading post ads must be in publisher's office 10th of month preceding date of publication. Illustrations limited to ½ size space used. No reverse plates. Publisher reserves right to classify, edit, or reject ad. Space sold only in inch units x 2 3/16 in. wide. Cost $10.00 per in., cash in advance. No agency commission. 5% discount if payment made in advance for 1 yr.

LUMBER, PLYWOOD, ETC.

WANTED

Any quantity surplus and cut-off

PLYWOOD & HARDBOARD

by reliable firm. Send list and full details. Write to Box A210, c/o Wood & Wood Products.

WEST COAST LUMBER
Kiln Dried Douglas Fir Industrial Clears All Thickness to 16/4
Millwork Stock Rough or Surfaced Mouldings, Ladder Rails and Cut Stock
AL CLEMENTS LUMBER CO.
PO Box 908 **Eugene, Oregon**
TWX EG 049 **Phone 5-3317**

Wanted to buy, Beech scrap to make 1" x 2" x 6½" and 15/16" x 1¾" x 5½". Also any hard wood to make 15/16" x 1⅞" x 6¼".

The V.Hoge Blacksmith Co., Watertown, Wis.

Manufacturers of Woodturnings attention! Jobber, New York and Philadelphia area, wants reliable sources of supply for woodturnings of all types. Manufacturer must be willing to drop ship. Also willing to represent manufacturers on commission basis.

Little York Products Company
175 Fifth Avenue, New York 10, N. Y.

MACHINERY

"HANDY" REVOLVING CASE CLAMPS
MANUALLY OPERATED

3—Case Clamps opens 48" height 48"
1—Case Clamps opens 54" height 48"
1—Case Clamps opens 36" height 36"
1—Side Clamp opens 48" height 48"
1—Press Over all length 48" height 40"
2 screw presses with 22" faces

Rock-Ola Manufacturing Corporation
800 N. Kedzie Avenue
Chicago 51, Illinois

Telephone Nevada 8-7600

Machinery Wanted

Late model six inch ball bearing 4 head Moulder. Mattison, Yates, Woods or Ekstrom-Carlson. Also interested in extra heads for same. Dakota Sash & Door Co., Box 15, Aberdeen, South Dakota.

For Sale—Millwork Machinery including Moulding Machines, Jointers, Sander, Mortiser, Magnetic Chuck Grinder, Single and Double End Tennonners, Glue Jointer, Jointers, etc. Andre Wood Products, Inc., 3797 E. Livingston Ave., Columbus, Ohio. DO-2755.

STEEL CONVEYORS
WITH LATEST IMPROVEMENTS

Engineer-designed by Walters Manufacturing Company to save wood handling costs and speed production. Constructed of heavy steel, complete with Flexteek conveyor belting and anti-friction ball bearings throughout. Size of Motor Drive dependent on length and use intended. We will cut and weld to your specifications. Approximately 500 feet 12" width and 250 feet 18" width available for immediate shipment f.o.b. Chicago. All equipment in first class condition, much of it never used because of production changes. THIS IS YOUR CHANCE TO INSTALL THE LATEST AND MOST ECONOMICAL CONVEYOR SYSTEM AT A BIG SAVING OVER ORIGINAL PRICE. Write, wire or phone your requirements.
Mr. J. J. Sears **Nevada 8-7600**

Rock-Ola Manufacturing Corporation
800 No. Kedzie Avenue
Chicago 51, Illinois

BUSINESS OPPORTUNITIES

For Sale—Woodworking plant complete with steam kiln and machinery, Planer matcher, moulder 20" surface planer, saws, endmatcher and other equipment. Dust collector, all new motors. Located in rich central Missouri. Have $10,000 advanced orders booked. Will sacrifice for $15,000 no debts. Cash not all required.
Write Box A-223, Wood & Wood Products.

Thinking of Establishing a Branch Plant!

Here are two buildings each with 25,000 ft. of floor space located in a modern small community. Good labor, excellent power, water, transportation, low taxes, wonderful living conditions and recreation facilities. A modern sawmill, dry kilns, planing mill and lumber handling equipment to serve you. Northern and Canadian hardwoods and softwoods at your door. Will sell or rent all or part of buildings. Don't miss this opportunity. Write today for complete information.

Wisconsin Land & Lumber Co.
Hermansville, Michigan

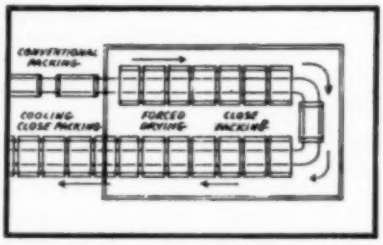
Conveyorized Finishing

Continued from Page 29

"to finish console and desk model sewing machine cabinets in walnut, mahogany, maple and oak, using one, two or three-coat lacquer systems. Facilities permit, when necessary, the application of sap and body stain, wash coat, filler, sealer, shading and the desired number of top coats (lacquer).

"Between coat sanding, rubbing, steel wooling, waxing, upfitting including hardware, drum panels, rheostats and head hinges along with touch-up, patching, inspection and packing of the cabinets are all accomplished on the conveyor."

The power-driven system forms a closed circuit, with the starting point either in the upper floor storage area or at the end of the cabinet assembly



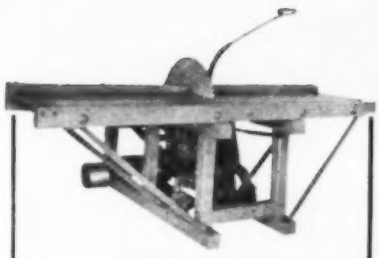
TYPE of system installed in Rockford sewing machine cabinet plant

line. The assembled cabinets move smoothly along the line through sanding and inspection stations, spray booths, drying ovens, rubbing areas, upfitting points, packaging stations and into storage or out to the shipping areas. Timing is arranged so that workers at each station always have a cabinet ready for their attention.

Once a cabinet has been set on the conveyor, it seldom needs to be touched by human hands for positioning. As the accompanying illustrations and captions indicate, the installation has resulted in nearly 100% productive man-hours along the conveyor.

In addition to Manager Deal, the men responsible for this efficient cabinet operation are Ed Eksten, superintendent in charge of production, and L. S. Fackert, chief engineer, who is responsible for design, maintenance, time study, estimating, pattern shop and other engineering functions.

FRONT COVER of this issue shows wood office furniture dealer selling modernizing job with aid of W.O.F.I. scale model kit, and handsome result. (See Page 24.)



ENTERPRISE IMPROVED
UNDERSWING CUT-OFF SAWS

Made in Two Sizes

"STANDARD"
and
"HEAVY DUTY"

Write for
Lumber and Log Calculator

The Enterprise Company
Subsidiary of
WM. K. STAMETS COMPANY
Machinery Builders & Engineers — Pittsburgh
COLUMBIANA, OHIO, U. S. A.

Handle Dry Kiln Doors
SINGLE-HANDED?

You can do it with
The Universal DOOR CARRIER

One man—with one hand—and a Universal Carrier can open or close a kiln *in a few seconds.* And the carrier makes your doors last longer!—by gentler handling, without twist or strain. Automatic locking gives you good tight closures every time.

Write for further facts!

Universal DOOR CARRIER, INC.
1117 Cornell Avenue
Indianapolis 2, Ind.

ADVERTISERS' INDEX

Abrasive Products Corp	39
Adhesive Products Corp	56
American Cyanamid Co	13
Associated Plywood Mills, Inc	16
Atkins Saw Division, Borg-Warner Corp.	43
Buhnson Co.	46
Balsa Ecuador Lumber Corp	63
Berthelsen Engineering Works, Inc	59
Black Brothers Co., Inc., The	10
Bradley Lumber Co	52
Buss Machine Works	70
California Redwood Association	73
Chevrolet Motor Div., General Motors Corp	4
Coe Manufacturing Co., The	21
Darlington Veneer Co., Inc	62
Dimension Stock	74
Edmont Manufacturing Co	71
Ekstrom, Carlson & Co	48
Enterprise Co., The	77
Finwood Industries	59
Firth Sterling Steel & Carbide Corp	67
Fordyce Lumber Co	15
Gamble Brothers, Inc	53
Greenlee Brothers & Co	6
Greenlee Tool Co	51
Hanchett Mfg. Co	57
Hartzell Propeller Fan Co	80
Jackson Blow Pipe Co	58
Jamestown Veneer & Plywood Corp	50
Kirk & Blum Mfg. Co., The	9
Lovsted & Co., C. M	72
Mansfield Hardwood Lumber Co	77
Mattison Machine Works	17
Mauk-Seattle Lumber Co	5
McDonough Mfg. Corp	58
Mereen-Johnson Machine Co	36 & 37
Meyers Co., Inc., W. F	54
Mitts & Merrill	68
Moore Dry Kiln Co	42
Nagel Chase Mfg. Co	66
Nash Co., J. M	65
National Adhesives	11
National Casein Co	18
Nelsonite Chemical Products	45
Oliver Machinery Co	71
Onsrud Cutter Mfg. Co	54
Pacific Mutual Door	61
Perkins Glue Co	79
Port Barre Lumber Industries, Inc	66
Porter Machinery Co., C. O	40 & 41
Radio Receptor Co., Inc., Thermatron Div.	8
Red Lion Cabinet Co	14
Reichhold Chemicals, Inc	3
Schrader's Son, A	69
Shimer & Sons, Inc., Samuel J	54
Simonds Saw and Steel Co	64
Smith Lumber Co., The Ralph L	33
Standard Dry Kiln Co	62
Stanley Works, The	12
Tannewitz Works, The	68
Trading Post	76
Universal Door Carrier, Inc	77
Wallace, Inc., Don B	75
Wallace & Co., L. R	56
Wapakoneta Machine Co., The	61
Wheland Co., The	20
Whitney & Sons, Inc., Baxter D	2
Wood Turnings	75
Wysong & Miles	61
Yates-American	52

You'll be DOLLAR$ *Ahead with*
MAN$FIELD
Micro-Made
DIMEN$ION

Hardwood
or Pine

Glued-Up
or
Solid

Moulded
Equalized
Tenoned

From Mansfield's own perpetual yield timberlands only the finest is selected from 40,000,000 ft. produced yearly. Finished by master craftsmen using the most modern methods and machines. You are assured top quality and on-time delivery when you buy from . . .

MANSFIELD
HARDWOOD
LUMBER
COMPANY
Post Office Box 91
Shreveport, Louisiana

Mills: Zwolle and Winnfield, Louisiana
Dimension Plant: Zwolle, Louisiana

For their contributions to the advancement of the wood industries . . .

Wood Salutes

CHARLES R. SLIGH, JR.

POSSIBLY THE HIGHEST NATIONAL HONOR ever received by a furniture manufacturer was conferred recently on Charles R. Sligh, Jr., head of the various enterprises known collectively as the Sligh Furniture Companies, when he was elected president of the National Association of Manufacturers. At 46, he is the second youngest president of the nation's largest business association and its youngest in 30 years.

That sort of thing seems to be a habit with the Grand Rapids furniture leader. At 40, he was president of the National Association of Furniture Manufacturers, and back in the depths of the depression of the early '30s he gained fame as a "boy wonder" when he started his furniture business on a shoestring and rapidly built it into a profitable enterprise.

Mr. Sligh is president of the Charles R. Sligh Co., Holland, Mich., the Sligh-Lowry Furniture Co., Zeeland, Mich., the Grand Rapids Chair Co., Grand Rapids, and the Sligh Furniture Showrooms, Inc., New York.

Back in 1933, he and his partner, O. W. Lowry, founded the Charles R. Sligh Co. with a capital of only $14,600. Sligh-Lowry was established in 1940, and four years later the chair company was launched. "Chuck," as Mr. Sligh is known to his countless friends, had worked in 1927 as a laborer in his noted father's furniture factory. Before that, he had quit college to work, first, as a construction laborer and later as a blacksmith's helper.

In 1945 he was named "Furniture Man of the Year" for his leadership in establishing a four-year course for training furniture executives at the University of Michigan. In addition to his national honors, he has been president of the Grand Rapids Furniture Manufacturers Association, the Furniture Salesmen's Guild of that city, and the Grand Rapids Furniture Makers Guild.

He has been active in the National Association of Manufacturers since 1946, having served on several policy committees and as a director since January, 1949. He is an active community worker, has helped lead many community drives, and was especially active in the 1950 Grand Rapids Hospital Building Fund Campaign. He is a past president of the Holland, Mich., Chamber of Commerce and of the Ottawa-Allegan Boy Scout Council.

During World War II, "Chuck" Sligh served on the Regional War Labor Board as well as the War Production Board, and was a captain in the Michigan wing of the Civil Air Patrol. In fact, he is a regular flyer, with a log of more than 1,500 solo hours as a pilot, and plans to use his plane frequently during 1953 to cover the 100,000-mile schedule he is expected to fill as N.A.M.'s first "flying president."

He is also an ardent sportsman, having been national open water ski champion from 1941 to 1945, and is president of the American Water Ski Association.

What Do YOU Think?

Executives in all branches of the wood industries are invited to contribute their thoughts on the subject discussed on Page 19. Whether pro or con, let's have your frank comments on this industry problem.

—The Editors.

RALPH R. MACARTNEY

RALPH R. MACARTNEY, manager of Weyerhaeuser Timber Co.'s Klamath Falls (Ore.) branch and newly elected president of the National Lumber Manufacturers Association, is not a man to lose sight of home-town problems because he has received national recognition.

When one of the worst blizzards in Klamath Falls history blew down power lines this winter, it left the community without a kilowatt of electricity. Macartney, without hesitation, threw the entire power generating ability of the Weyerhaeuser plant into the breach—and kept the community going through a critical, near-disastrous period.

The incident is typical of the "good neighbor" role that Macartney believes a business should play in its community.

Born in Stillwater, Minn., in 1887, Macartney attended public schools in St. Paul, Hotchkiss School in Lakeville, Conn., and Yale University. Upon graduation from Yale, he went to work for Northern Lumber Co. in Cloquet, Minn.

After short periods with Northern, and Johnson-Wentworth Co., also of Cloquet, Macartney joined the Cloquet Lumber Co. in 1912, where he stayed until 1927. In November of that year, he joined the Weyerhaeuser Timber Company at Klamath Falls, to become the first and only branch manager that plant has known.

He is a past president and director of Western Pine Association, and a director of Timber Engineering Co. and California Pine Box Distributors. He also serves as vice-president of the Pine Industrial Relations Committee.

Simplify your Gluing Operations with

DC-246

AN ALL-PURPOSE UREA RESIN WOOD GLUE FOR YOUR USE IN HOT PRESS, COLD PRESS & HIGH FREQUENCY OPERATIONS FOR THE BONDING OF WOOD TO WOOD OR OTHER MATERIALS SUCH AS PLASTIC LAMINATES

for VENEERING, ASSEMBLY, EDGE GLUING AND LAMINATION Perkins DC-246 powdered urea resin glue with catalyst incorporated is the last word in the simplification of your gluing operation. Consistently excellent, strong and highly water resistant bonds may be obtained with a minimum of effort.

When mixed with water, Perkins DC-246 is the equivalent of the finest high-solids liquid urea resin glue. Yet, it is easier to handle in storage, the mixing operation is less critical and uniformity is more easily attained.

Users have found Perkins DC-246 to excel for normal gluing jobs and to be particularly adaptable for those tricky applications where other glues have failed.

Write, or contact your Perkins representative, for complete details on Perkins DC-246. A trial sample will be furnished you without cost or obligation.

PERKINS GLUE COMPANY

LANSDALE, PA. • HIGH POINT, N. C. • SHAWANO, WISCONSIN
KITCHENER, ONTARIO • LA CHUTE, QUEBEC

PERKINS GLUES

OTHER PERKINS PRODUCTS INCLUDE Urea, Phenolic and Resorcinol Resin Adhesives, Casein and Vegetable Glues; Prepared Hide Glues, Gluing Equipment and Glue Room Supplies.

HARTZELL *Reversible* dry-kiln fans for faster, more uniform LUMBER DRYING

Here's a broadside view of the fan. Housed in a flared cylinder, with angle-iron at each end, it's easy to install. Can be reversed manually or automatically.

Let's get the facts straight: If you were to run this fan one way you would get as much or more air-movement as you would from any good one-way fan of the same size; then you can run this Hartzell fan "backward" and get *exactly* the same air-delivery in the opposite direction.

To a dry-kiln man, that opens up a mighty inviting picture. It means he can alternate the direction of air-flow in his kilns as drying proceeds. And *that* means uniform drying — no case-hardening at one point or incomplete drying at another. Faster, too — no slow spots. Obviously, a better product.

Revolutionizes old kilns. Makes new ones better.

Mail the coupon below for complete information, or write, telling us your particular problem.

HARTZELL *propeller fan co.*

Div. of Castle Hills Corp.

Name _____

Company _____

Street & Number _____

City & State _____

If student, check here for special information ☐

Dept. E

PIQUA, OHIO

PROPELLER-TYPE FANS • BLOWERS
ROOF VENTILATORS • UNIT HEATERS

ENGINEERING OFFICES IN PRINCIPAL CITIES